SOIL SURVEY

East Baton Rouge Parish
Louisiana

OUR SOIL ★ OUR STRENGTH

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
LOUISIANA AGRICULTURAL EXPERIMENT STATION

Issued September 1968

Major fieldwork for this soil survey was done in the period 1959–64. Soil names and descriptions were approved in 1965. Unless otherwise indicated, statements in the publication refer to conditions in the parish in 1965. This survey was made cooperatively by the Soil Conservation Service and the Louisiana Agricultural Experiment Station; it is part of the technical assistance furnished to the Feliciana Soil and Water Conservation District.

HOW TO USE THIS SOIL SURVEY

THIS SOIL SURVEY contains information that can be applied in managing farms and woodland; in selecting sites for roads, ponds, buildings, or other structures; and in appraising the value of tracts of land for agriculture, industry, or recreation.

Locating Soils

All of the soils of East Baton Rouge Parish are shown on the detailed map at the back of this survey. This map consists of many sheets that are made from aerial photographs. Each sheet is numbered to correspond with numbers shown on the Index to Map Sheets.

On each sheet of the detailed map, soil areas are outlined and are identified by symbol. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise, it is outside and a pointer shows where the symbol belongs.

Finding and Using Information

The "Guide to Mapping Units" can be used to find information in the survey. This guide lists all of the soils of the parish in alphabetic order by map symbol. It shows the capability unit, woodland suitability group, and wildlife suitability group for each soil. It also shows the page where each kind of soil and each capability unit is described.

Interpretations not included in the text can be developed by grouping the soils according to their suitability or limitations for a particular use. Translucent material can be used as an overlay over the soil map and colored to show soils that have the same limitation or suitability. For example, soils that have a slight limitation for a given use can be colored green, those with a moderate limitation can be colored yellow, and those with a severe limitation can be colored red.

Farmers and those who work with farmers can learn about use and management of the soils from the soil descriptions and from the discussions of the capability groups, woodland groups, and wildlife groups.

Foresters and others can refer to the section "Use of the Soils as Woodland," where the soils of the parish are grouped according to their suitability for trees.

Game managers, sportsmen, and others concerned with wildlife will find information about soils and wildlife in the section "Use of the Soils for Wildlife."

Engineers, builders, and community planners can find under "Use of the Soils in Engineering" tables that give engineering descriptions of the soils in the parish and that name soil features that affect engineering practices and structures. Also, they can read about the soil properties that affect the choice of homesites, industrial sites, and sites for other nonfarm uses.

Scientists and others can read about how the soils were formed and how they are classified in the section "Formation and Classification of the Soils."

Newcomers in East Baton Rouge Parish may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the section "General Nature of the Parish."

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Issued September 1968

SOIL SURVEY OF EAST BATON ROUGE PARISH, LOUISIANA

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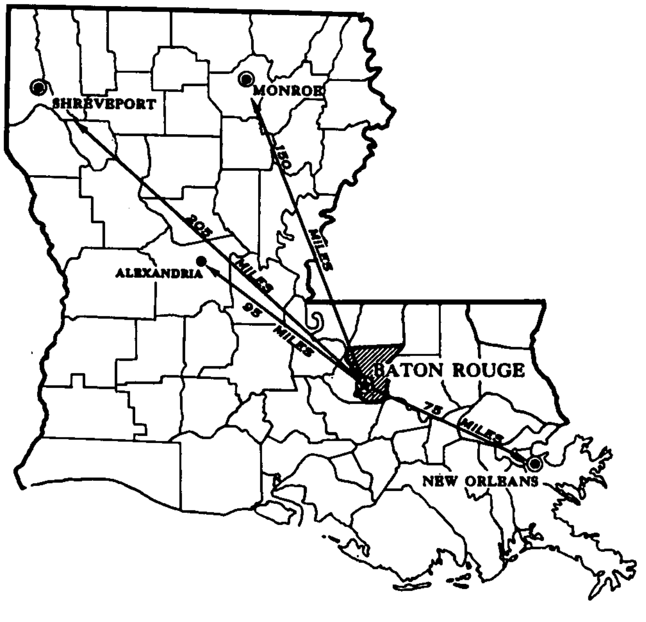
UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, IN COOPERATION WITH THE LOUISIANA AGRICULTURAL EXPERIMENT STATION

EAST BATON ROUGE PARISH is in the southeastern part of Louisiana, along the eastern bank of the Mississippi River (fig. 1).



State Agricultural Experiment Station at Baton Rouge

Figure 1.—Location of East Baton Rouge Parish in Louisiana.

The total land area of the parish is 292,314 acres. In 1960 the population totaled 230,058.

This parish was once agriculturally important and had large farms and plantations planted to sugarcane, cotton, corn, and rice. In the past 20 years, industrial development has progressed rapidly, and much of the farmland has been taken over for industrial, business, and residential uses. The raising of beef cattle and dairying are major enterprises on the remaining farms. Pasture, hay, and grain for feed are the main crops.

Most of the parish with the exception of the western fringe consists of loesslike soils with a high silt content that were probably deposited by wind action. These soils are low to moderate in natural fertility but respond well to fertilizer. The slopes are dominantly nearly level to very gently sloping. Steeper slopes occur along the escarpments above the flood plains.

The western fringe of the parish consists of soils that developed from sands, silts, and clays deposited by the Mississippi River. These soils are high in natural fertility. The slope is dominantly nearly level. A levee system protects a major part of this area from the frequent floods of the Mississippi River.

Excess surface water is a common problem on many of the nearly level soils throughout the parish; therefore, drainage and flood control are needed in a number of areas.

How This Soil Survey Was Made

Soil scientists made this survey to learn what kinds of soils are in East Baton Rouge Parish, where they are located, and how they can be used. They went into the parish knowing they likely would find many soils they had already seen and perhaps some they had not. As they traveled over the parish, they observed steepness, length, and shape of slopes; size and speed of streams; kinds of native plants or crops; and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down to material that has not been changed much by leaching or by roots of plants.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in parishes nearby and in places more distant. They classified and named the soils according to nationwide, uniform procedures. To use this soil survey efficiently, it is necessary to know the kinds of groupings most used in a local soil classification.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, the major horizons of all the soils of one series are similar in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. Commerce and Sharkey, for example, are the names of two soil series. All the soils in the United States having the same series name are essentially alike in those characteristics that affect their behavior in the natural, undisturbed landscape. Soils of one series can differ somewhat in texture of the surface soil and in slope, stoniness, or some other characteristic that affects use of the soils by man.

Many soil series contain soils that differ in texture of their surface layer. According to such differences in texture, separations called soil types are made. Within a series all the soils having a surface layer of the same texture belong to one soil type. Sharkey clay and Sharkey silty clay loam are two soil types in the Sharkey series. The difference in the texture of their surface layers is apparent from their names.

Some soil types vary so much in slope or some other feature affecting their use that practical suggestions about their management could not be made if they were shown on the soil map as one unit. Such soil types are divided into soil phases. The name of a soil phase indicates a feature that affects management. For example, Loring silt loam, 0 to 1 percent slopes, is one of four phases of Loring silt loam, a soil type that has a slope range of 0 to 8 percent.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that help in drawing boundaries accurately. The soil map at the back of this soil survey was prepared from the aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning management of farms and fields, a mapping unit is nearly equivalent to a soil type or a phase of a soil type. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is dominantly of a recognized type or phase.

In preparing some detailed maps, the soil scientists have a problem of delineating areas where different kinds of soils are so intricately mixed or occur in such small individual tracts that it is not practical to show them separately on the map. They show such a mixture of soils as one mapping unit and call it a soil complex. Ordinarily, a soil complex is named for the major kinds of soil in it, for example, Deerford-Olivier silt loams, 0 to 1 percent slopes.

Another kind of mapping unit is the soil association. It is a large acreage that consists of two or more soils and is uniform in pattern and proportion of the dominant soils, though these soils may differ greatly. An example is Sharkey-Tunica association, overflow.

Another kind of mapping unit is the undifferentiated group, which consists of two or more soils that occur together without regularity in pattern or relative proportion. The individual tracts of the component soils could be shown separately on the map, but the differences between the soils are so slight that the separation is not important for the objectives of the soil survey. An example is Essen and Lafe silt loams.

Most surveys include areas where the soil material is so frequently worked by wind and water that it cannot be classified by soil series. These areas are shown on the map like other mapping units, but are given descriptive names, such as Made land or Terrace escarpments, and are called land types.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soils in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soils. Yields under defined management are estimated for all the soils.

But only part of a soil survey is done when the soils have been named, described, and delineated on the map, and the laboratory data and yield data have been assembled. The mass of detailed information then needs to be organized in such a way that it is readily useful to different groups of readers, among them farmers, managers of woodland, planning commissions, engineers, and homeowners. Grouping soils that are similar in suitability for each specified use is the method of organization commonly used in the soil survey. On the basis of yield and practice tables and other data, the soil scientists set up trial groups. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others, then adjust them according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

The general soil map at the back of this soil survey shows, in color, the soil associations in East Baton Rouge Parish, Louisiana. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in the parish, who want to compare different parts of the parish, or who want to know the location of large tracts that are suitable for a certain kind of farming or other land use. Such a map is not suitable for planning the management of a farm or field, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect management.

Described in the following pages are the 12 soil associations in East Baton Rouge Parish.

1. Mhoon-Commerce association

Dominantly level, poorly drained and somewhat poorly drained, loamy soils on broad natural levees of the Mississippi River flood plain; protected from overflow

This association consists of broad bottom lands of the Mississippi River. It occurs at an elevation of 20 to 25 feet. The topography is predominantly level, but it is broken by narrow, gently convex ridges and old channels, which run northwest to southeast across much of the association.

This association makes up about 4 percent of the parish. About 60 percent is Mhoon soils, 25 percent is Commerce soils, and 15 percent consists of Dundee, Sharkey, and Tunica soils.

Mhoon soils have a surface layer of dark grayish-brown silty clay loam to silty clay and a gray, mottled subsoil that normally consists of stratified silt loam and silty clay loam.

Commerce soils are as much as 2 feet higher in elevation than Mhoon soils. They have a surface layer of dark grayish-brown loam or silt loam. The subsoil is grayish brown, mottled with brown in the upper part, and is dominantly gray below a depth of 18 to 24 inches.

Dundee soils are on level, low ridges and are at about the same elevation as Mhoon and Commerce soils. Sharkey and Tunica soils are in nearly level areas and in slight depressions.

Most farms in this association contain several hundred acres and are used chiefly for livestock production. Mhoon and Commerce soils are fertile and are well suited to most crops grown in the parish. They are fairly easy to work and to keep in good tilth. The available water capacity is high. Almost all areas need artificial drainage if they are used for cultivated crops or pasture.

2. Sharkey-Tunica association

Level or nearly level, poorly drained, clayey soils of the Mississippi River flood plain; protected from overflow

This association consists of back swamps of the Mississippi River. The elevation is about 20 feet, which is slightly lower than that of the Mhoon-Commerce association. The topography is mainly level, but minor areas have a repeating pattern of narrow depressions, or swales, and narrow, convex ridges that have slopes of 2 to 3 percent.

This association makes up about 3 percent of the parish. About 60 percent is Sharkey soils, 30 percent is Tunica soils, and 10 percent consists of Dundee and Tensas soils.

Sharkey soils have a surface layer of dark grayish-brown clay and a lower subsoil of gray, plastic clay. They are at a lower elevation than the rest of the soils. Most areas are broad and flat, but a few small areas are in narrow depressions between low ridges occupied by Tunica soils.

Tunica soils are in level areas and on narrow, convex ridges. They have a surface layer of dark grayish-brown clay and are underlain at a depth of 18 to 24 inches by grayish-brown to gray silty clay loam. Dundee and Tensas soils are on long, narrow, convex ridges.

Most farms in this association contain several hundred acres and are used chiefly for livestock production. About 50 percent of the acreage is in mixed hardwood forest, and 40 percent is in pasture. Only a few small areas are cultivated. Because of the plastic clay surface layer, the soils are cloddy and difficult to work. Permeability is very slow, and the available water capacity is moderate. Pasture and hay are more suitable than cultivated crops.

3. Sharkey-Mhoon-Crevasse association

Poorly drained to excessively drained, clayey, loamy, and sandy soils of the Mississippi River flood plain; subject to overflow

This association consists largely of back swamps and depressions on the bottom lands of the Mississippi River. The general pattern consists of gently sloping Crevasse soils along riverbanks, level and depressional Sharkey soils in back swamps, and level or nearly level Mhoon soils between the Crevasse and the Sharkey soils. The soils are flooded at least once or twice each year.

This association makes up about 6 percent of the parish. Sharkey and Tunica soils account for about 60 percent of the acreage; Loamy alluvial land and Mhoon soils, 30 percent; and Crevasse soils, 10 percent.

Most of this association is in mixed hardwood forest, but some areas are used for grazing during dry periods. Most areas are parts of large farms that are used chiefly for the production of beef cattle. Much of the acreage is accessible only from the river. The soils are high in natural fertility, but because they are flooded, they are not suited to cultivated crops and are little better suited to improved pasture.

4. Cascilla-Ochlockonee association

Level or nearly level, well-drained, loamy soils on flood plains of the Amite River, the Comite River, and tributaries of these; subject to overflow

This association consists of broad and narrow flood plains of the Amite River, the Comite River, and the tributaries of these streams. Cascilla and Ochlockonee soils on ridges and Waverly and Falaya soils in depressions form a repeating pattern along the larger streams. Broad depressions and back swamps of the flood plains are made up of Waverly and Falaya soils.

This association makes up about 7 percent of the parish. About 60 percent is Cascilla soils, 25 percent is Ochlockonee soils, and 15 percent consists of Waverly and Falaya soils.

Cascilla soils are dark-brown, well-drained silt loams, and Ochlockonee soils are well-drained, yellowish-brown fine sandy loams. Both are in large, level or nearly level areas and on hummocky ridges that have a slope range of 1 to 3 percent. Waverly and Falaya soils are poorly drained and somewhat poorly drained silt loams and are in swales and back swamps.

More than 90 percent of this association is in forest consisting of mixed hardwoods and some pines. Most areas make up parts of large farms. Sales of beef cattle, timber products, and sand and gravel are the main sources of farm income. Deposits of sand and gravel are near or in the larger streams. The broader flood plains are flooded once or twice each year, usually in March or April, and the narrow flood plains are flooded frequently. Areas that are flooded least often can be used for improved pasture. Volunteer plants provide seasonal grazing. Most of the woodland is grazed also, but the forage is scanty and of poor quality. Because the soils are frequently flooded, they are more suitable for woodland, wildlife, or recreation than for cultivated crops.

5. *Olivier-Loring association*

Nearly level to gently sloping, somewhat poorly drained and moderately well drained, loamy soils on ridges and in broad valleys

This association consists of nearly level to gently sloping ridges and low, mostly broad valleys in the northern part of the parish. The elevation ranges from 110 to 135 feet on the ridges and from 70 to 90 feet in the valleys.

This association makes up about 7 percent of the parish. About 50 percent is Olivier soils, and 35 percent is Loring soils. Somewhat less than 15 percent consists of Calhoun, Zachary, Frost, and Jeanerette soils, and less than 1 percent is Memphis soils.

The somewhat poorly drained, nearly level Olivier soils are on broad ridgetops, foot slopes, and smooth side slopes. These soils have a surface layer of grayish-brown, friable silt loam and a subsoil of yellowish-brown, friable silty clay loam mottled with gray. A slowly permeable fragipan occurs below a depth of about 16 to 20 inches. The moderately well drained Loring soils occur on the ridges and nearly level to gently sloping side slopes. They have a brown silt loam surface layer and a brown silty clay loam subsoil. A fragipan occurs below a depth of 20 to 24 inches.

Calhoun, Zachary, Frost, and Jeanerette soils, which are mainly poorly drained, acid, gray silt loams, are in the valleys between ridges. These valleys form natural drainageways. Most of the streams are shallow and intermittent. Memphis soils are well drained and occur on the ridges with the Loring soils, but do not have a fragipan.

Most farms in this association contain several hundred acres. There are several large dairies and large herds of beef cattle. The soils are low in fertility but, if limed and fertilized, are productive of most crops and pasture plants. They hold moisture fairly well. Sloping areas that are cultivated and left unprotected are subject to erosion. The poorly drained soils in the valleys, large areas of which are subject to occasional floods, are not well suited to cultivated crops, but they are good for pasture if they are drained, limed, and fertilized. Oats and ryegrass are grown for winter grazing. Several pecan orchards are in this association, and some sweetpotatoes are grown.

6. *Olivier-Providence association*

Nearly level to gently sloping, somewhat poorly drained and moderately well drained, loamy soils on ridges that have long side slopes

This association is along the northeastern border of the parish. It consists of gently convex ridges, most of which have long, nearly level side slopes and foot slopes. Some of the ridgetops are broad and nearly level. Numerous shallow, intermittent streams have cut through the ridges and flow through narrow valleys. The ridges are 15 to 25 feet above the valleys and about 40 feet above the flood plains, at an elevation of 120 to 135 feet.

This association makes up about 4 percent of the parish. About 45 percent is Olivier soils, 40 percent is Providence soils, and 15 percent consists of Calhoun, Cascilla, and Waverly soils.

Olivier soils are on broad ridgetops, smooth side slopes, and foot slopes. Providence soils are on uneven slopes, slightly steeper side slopes, and gently convex ridgetops. Both the Olivier and Providence soils have a silt loam surface layer, a friable silty clay loam subsoil, and a slowly permeable fragipan below a depth of 16 to 24 inches. The subsoil of the Olivier soils is mottled yellowish brown and gray, and that of the Providence soils is brown or yellowish red. Providence soils are underlain by loam, clay loam, or sandy clay loam below a depth of 30 to 36 inches. Calhoun soils are on terraces of the broader valleys, Cascilla soils are near the larger streams, and Waverly soils are on the nearly level flood plains and along the smaller, more sluggish streams.

Most farms in this association contain several hundred acres. There are a few dairies, but the main sources of income are beef cattle and timber products. About half the association is in forest consisting of loblolly pine and mixed hardwoods. The rest is mainly in hay and volunteer grass pasture. A few fields are used for corn, oats, garden crops, and supplemental oats and ryegrass pasture. Most of the woodland is grazed, but the forage is scanty and of poor quality.

7. *Olivier-Loring-Terrace escarpments association*

Level to gently sloping, somewhat poorly drained and moderately well drained, loamy soils and steep escarpments

This association consists of slightly dissected to highly dissected, level to gently sloping areas and steep escarpments. It occurs in an irregular belt that begins in the northwestern part of the parish, extends southward, and crosses the southern third. Much of the acreage is level or nearly level, but areas along drainageways have a slope range of 1 to 3 percent or more. The most striking feature is a steep escarpment that rises abruptly from the flood plain of the Mississippi River to the level and nearly level areas of loesslike soils.

This association makes up about 11 percent of the parish. About 47 percent is Olivier soils, 23 percent is Loring soils, and 22 percent consists of Terrace escarpments. The rest consists of Memphis, Springfield, and Calhoun soils.

All of these soils have a silt loam surface layer and a silty clay loam subsoil. Olivier soils are nearly level and somewhat poorly drained. They have a mottled gray and yellowish-brown subsoil and a fragipan below a depth of 16 to 24 inches. Loring soils, which are moderately well drained and nearly level, are along drainageways and on a few of the steeper, short slopes. They have a brown subsoil and a fragipan at a depth of 18 to 24 inches. Memphis soils occur with the Loring soils, and Springfield soils with the Olivier soils. Small to medium-sized areas of Calhoun soils are on broad flats.

About 30 percent of this association is used for pasture, 20 percent has been developed for urban use, 10 percent is cultivated, and 40 percent is in forest consisting of mixed hardwoods and pines. Much of the acreage is suitable for homesites, and the present trend is toward residential use. Many of the farms contain less than 20 acres, but a few contain several hundred acres. The raising of beef cattle is the major enterprise on farms, but dairying also is important. There are a few pecan orchards between 2 and 10 acres in size. Except for the escarpments, this association is fairly well suited to cultivated crops and pasture plants.

8. Olivier-Calhoun-Loring association

Dominantly level, poorly drained to moderately well drained, loamy soils on broad flats and in slight depressions

This association consists of small and large, level or nearly level areas; numerous flats; and shallow depressions. It occurs mainly in a discontinuous, broad belt that extends from northwest to southeast across the parish, but large areas are in the central and east-central parts. The elevation ranges from 25 to 35 feet in the southern part of the parish to slightly less than 100 feet in the northern part.

This association makes up about 19 percent of the parish. About 60 percent is Olivier soils, 25 percent is Calhoun soils, 14 percent is Loring soils, and the rest consists of Zachary, Frost, Deerford, and Springfield soils.

Olivier and Loring soils are in smooth areas. Olivier soils are somewhat poorly drained. They have a surface layer of grayish-brown, friable silt loam and a subsoil of yellowish-brown, friable silty clay loam mottled with gray. Loring soils, which are moderately well drained, have a brown silt loam surface layer and a brown, friable clay loam subsoil. Olivier and Loring soils both have a fragipan below a depth of about 16 to 24 inches. The Calhoun soils, which are poorly drained, are on flats and in shallow depressions. These soils have a gray silt loam surface layer, about 12 to 22 inches thick, and a gray silty clay loam subsoil.

Frost and Zachary soils, which are poorly drained, occur with Calhoun soils in the deeper depressions along sluggish drainageways. Runoff is very slow, and flooding is a hazard, especially on Zachary soils. Deerford and Springfield soils occur with Olivier soils in some places. They are somewhat poorly drained and very slowly permeable.

About 60 percent of this association is in forest consisting of mixed hardwoods and pines, 20 percent has been developed for urban use, more than 15 percent is used for pasture and hay, and the rest is cultivated or in other uses. The farms generally contain less than 50 acres, but a few contain several hundred acres. Both dairy cattle and beef cattle are raised on the larger farms. Most of the farms have part of their acreage in pasture, and most wooded areas also are pastured. All except Calhoun, Zachary, and Frost soils are fairly well suited to cultivated crops. All are well suited to pasture and hay crops.

9. Calhoun-Zachary-Frost association

Level or nearly level, poorly drained, loamy soils on broad flats and in depressions

This association consists mainly of broad flats and slight depressions. The largest areas are in the north-central, central, and southeastern parts of the parish.

This association makes up about 20 percent of the parish. About 60 percent is Calhoun soils, 19 percent is Zachary soils, 12 percent is Frost soils, and 9 percent consists of Bonn, Fountain, Olivier, Deerford, and other soils.

The characteristic pattern consists mainly of Calhoun soils on the broad flats and Zachary and Frost soils in the depressions. Some areas are along sluggish drainageways and are flooded after heavy rains. All of the soils have a silt loam surface layer and a silty clay loam subsoil. The water table is seasonally high, and runoff is very slow.

About 50 percent of this association is in mixed hardwood forest, more than 20 percent is in pasture, 15 percent has been developed for urban use, and a small acreage is cultivated. Most of the farms contain several hundred acres. The raising of beef cattle is the major enterprise. Most of the soils are well suited to pasture and hay crops but are not so well suited to cultivated crops. Areas along drainageways, which are flooded frequently, are not suited to cultivation. They are more suitable for woodland and volunteer grass pasture. Most wooded areas are used for grazing.

10. Freeland-Loring-Olivier association

Level to sloping, moderately well drained and somewhat poorly drained, loamy soils on natural levees above the flood plain of the Amite River, the Comite River, and smaller streams

This association consists of level areas and convex slopes on natural levees that are mainly 5 to 10 feet above the flood plain of the Amite River, the Comite River, and the smaller streams. The main areas are along the eastern border of the parish.

This association makes up about 3 percent of the parish. About 34 percent is Freeland soils, 32 percent is Loring soils, 28 percent is Olivier soils, and 6 percent consists of Dexter and Cahaba soils.

The characteristic pattern consists of Freeland and Loring soils on the steeper side slopes, Freeland and Olivier soils on the level and nearly level crests of the natural levees, and Dexter and Cahaba soils in small sloping areas. Freeland and Loring soils are moderately well drained. The surface layer of Freeland soils is brown very fine sandy loam; that of Loring soils is brown silt loam. Both soils have a subsoil of brown, friable silty clay loam and a fragipan below a depth of 16 to 24 inches. Olivier soils, which are somewhat poorly drained, have a grayish-brown silt loam surface layer; a subsoil of mottled brown and gray, friable silty clay loam; and a fragipan below a depth of about 16 to 24 inches. Dexter and Cahaba soils are well drained.

About 60 percent of this association is in forest consisting of pines and mixed hardwoods, 30 percent is used for pasture, and 10 percent is cultivated. The soils on the smooth slopes are subject to moderate erosion, and those on the escarpments are subject to severe erosion. Most areas were once used for cotton and corn, but some are now used for pasture. Many old fields are in pine trees 25 to 35 years old. The size of farms ranges from 60 to several hundred acres. The major enterprises are the production of timber and the raising of beef cattle. Most of the soils are suitable for cultivated crops and pasture plants if erosion is controlled.

11. Deerford-Verdun association

Level or nearly level, somewhat poorly drained, loamy soils that have a high content of sodium

This association consists of many, small and large, level or nearly level areas and many depressions only a few inches deep. It is mainly in a broad belt that extends from northwest to southeast across the parish. A few areas are in the central and northeastern parts. The characteristic pattern has only slight differences in relief.

This association makes up about 12 percent of the parish. About 30 percent is Deerford soils, 30 percent is Verdun soils, and the rest consists of Bonn, Calhoun, Essen, Fountain, Fred, Frost, Lafe, and Olivier soils.

Several farms in this association contain more than 500 acres, but many contain less than 50. Some are beef cattle farms and dairy farms. Urban developments cover about 60 percent of the acreage of Fred soils and 25 percent of the acreage of Verdun soils; the rest of the acreage is used for pasture. About 30 percent of the acreage of Deerford and Olivier soils has been developed for urban use, 35 percent is in pasture, and the rest is in hardwood forest. Most areas of Essen, Lafe, Fountain, Bonn, and Calhoun soils are in pasture and woodland, but a few small areas are cultivated. Most of the soils are very slowly permeable and have fairly low available water capacity. Some areas are subject to occasional floods, usually of short duration. Fred soils are well suited to cultivated crops, but the other soils generally are more suitable for pasture and hay crops. Deerford, Verdun, Lafe, and Bonn soils are medium to high in content of sodium and consequently have a restricted root zone.

12. Jeanerette association

Dark-colored, somewhat poorly drained, loamy soils, chiefly in depressions

This association consists mainly of somewhat poorly drained soils in depressions. It is in a discontinuous band that extends from the west-central to the southeastern part of the parish. Many of the depressions are small, but some cover several square miles.

This association makes up about 4 percent of the parish. About 65 percent is normal Jeanerette soils, 18 percent is light-colored Jeanerette soils, 10 percent is Frost soils, and the rest consists of acid Jeanerette soils and Fountain, Bonn, and Calhoun soils.

In a characteristic pattern, normal Jeanerette soils, light-colored Jeanerette soils, and Frost soils have about the same relief, and small areas of acid Jeanerette soils are in slightly lower swales and depressions. Jeanerette soils typically have a dark-colored surface layer. Those that are light colored have been covered with a 10- or 12-inch layer of grayish-brown silt loam. Both the light-colored and the dark-colored soils are subject to occasional floods. The acid Jeanerette soils have a surface layer of very dark gray or black silt loam, a subsoil of very dark gray silty clay loam, and a substratum of gray or olive-brown or mottled silty clay loam or silt loam. They are subject to frequent floods. Frost, Calhoun, and Bonn soils, which are poorly drained silt loams, are subject to occasional floods and are wet.

About 50 percent of this association has been developed for urban use, 40 percent is in hardwood forest, and 10 percent is used for pasture. Most of the acreage is either in small farms or real-estate holdings. Only a few small fields are cultivated. Most of the soils are capable of producing favorable yields of cultivated crops and many kinds of pasture plants. They are limited mainly by flooding and wetness. Jeanerette soils, acid variant, are severely limited in use because of flooding. They are commonly used as sites for stock ponds.

Descriptions of the Soils

This section describes each of the soil series and the mapping units in East Baton Rouge Parish. The procedure is to describe first a soil series, and then the mapping units in that series. Thus, to get full information on any one mapping unit, it is necessary to read the description of that unit and also the description of the soil series to which it belongs.

The soil series contains a description of the soil profile, that is, the major layers of the soil, from the surface downward. This profile is considered typical, or representative, for all the soils of the series. If the profile for a given mapping unit differs from this typical profile, the differences are stated in the description of the mapping unit, unless they are apparent from the name of the mapping unit.

Some mapping units, for example, Made land and Terrace escarpments, are miscellaneous land types and do not belong to a soil series. Nevertheless, they are listed in alphabetic order along with the soil series.

Following the name of each mapping unit is the symbol that identifies the soil or land type on the detailed map at the back of the survey. Shown at the end of each description are the capability classification, the woodland group, and the wildlife group in which the mapping unit has been placed. The page on which each mapping unit and each of the groups is described is listed in the "Guide to Mapping Units." The approximate acreage and proportionate extent of each mapping unit are given in table 1.

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

Mapping unit	Area	Extent
	Acres	*Percent*
Cahaba sandy loam, 1 to 3 percent slopes	444	0. 1
Calhoun silt loam	50, 842	16. 8
Calhoun-Bonn and Fountain silt loams	1, 895	. 6
Cascilla silt loam, undulating, overflow	15, 271	5. 1
Commerce loam	2, 775	. 9
Crevasse soils, overflow	2, 044	. 7
Deerford silt loam	6, 047	2. 0
Deerford-Olivier silt loams, 0 to 1 percent slopes	9, 128	3. 0
Deerford-Olivier silt loams, 1 to 3 percent slopes	540	. 2
Deerford-Verdun silt loams	4, 035	1. 3
Dexter very fine sandy loam, 0 to 1 percent slopes	471	0. 2
Dexter very fine sandy loam, 1 to 3 percent slopes	946	. 3
Dundee-Amagon complex, 0 to 1 percent slopes	270	. 1
Dundee-Amagon complex, undulating	678	. 2
Dundee-Tensas-Sharkey complex, undulating	2, 352	. 8
Essen silt loam	59	(1)
Essen and Lafe silt loams	1, 543	. 5
Fountain silt loam	14	(1)
Fountain and Bonn silt loams	1, 311	. 4
Fred silt loam	1, 536	. 5

See footnote at end of table.

TABLE 1.—*Approximate acreage and proportionate extent of the soils*—Continued

Mapping unit	Area	Extent
	Acres	*Percent*
Fred-Deerford silt loams	313	0. 1
Freeland very fine sandy loam, 0 to 1 percent slopes	881	. 3
Freeland very fine sandy loam, 1 to 3 percent slopes	1, 700	. 6
Frost silt loam	12, 938	4. 3
Jeanerette silt loam	6, 263	2. 1
Jeanerette-Frost silt loams	3, 287	1. 1
Jeanerette silt loam, light-colored variant	828	. 3
Jeanerette, light-colored variant-Frost silt loams	2, 489	. 8
Jeanerette silt loam, acid variant	232	. 1
Lafe silt loam	515	. 2
Loamy alluvial land and Mhoon soils, overflow	7, 420	2. 5
Loring silt loam, 0 to 1 percent slopes	4, 328	1. 4
Loring silt loam, 1 to 3 percent slopes	10, 388	3. 4
Loring silt loam, 3 to 5 percent slopes, eroded	920	. 3
Loring silt loam, 5 to 8 percent slopes, eroded	32	(1)
Made land	6, 606	2. 2
Memphis silt loam, 0 to 1 percent slopes	277	. 1
Memphis silt loam, 1 to 3 percent slopes	416	. 1
Memphis silt loam, 3 to 8 percent slopes, eroded	273	. 1
Mhoon silty clay loam	4, 900	1. 6
Mhoon silty clay	1, 615	. 5
Mhoon-Sharkey complex	869	0. 3
Ochlockonee fine sandy loam, overflow	5, 387	1. 8
Olivier silt loam, 0 to 1 percent slopes	42, 560	14. 1
Olivier silt loam, 1 to 3 percent slopes	20, 434	6. 8
Providence silt loam, 1 to 3 percent slopes	2, 647	. 9
Sharkey clay	3, 230	1. 1
Sharkey silty clay loam	390	. 1
Sharkey-Tunica clays, undulating	1, 034	. 3
Sharkey-Tunica association, overflow	2, 865	1. 0
Sharkey-Tunica clays, overflow	3, 589	1. 2
Smoothed land, Dundee and Tensas materials	289	. 1
Springfield silt loam	475	. 2
Springfield-Olivier silt loams	2, 174	. 7
Terrace escarpments	7, 440	2. 5
Tunica clay	654	. 2
Tunica-Sharkey clays	1, 168	. 4
Verdun silt loam	2, 209	. 7
Verdun-Deerford silt loams	5, 574	1. 8
Verdun-Fred silt loams	665	. 2
Waverly-Falaya silt loams, overflow	3, 380	1. 1
Zachary silt loam	16, 459	5. 5
Water	9, 766	3. 2
Total	302, 080	100. 0

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[1] Less than 0.05 percent.

Amagon Series

The Amagon series consists of poorly drained, slowly permeable, acid soils that formed primarily in loamy alluvium deposited by the Mississippi River. These soils have a surface layer of gray and dark grayish-brown silt loam or silty clay loam mottled with gray and brown. The subsoil is gray silty clay loam mottled with brown. The underlying material consists of gray silt loam or silty clay loam.

These soils generally are in gently concave depressions, but some of the acreage is nearly level. They commonly adjoin Dundee soils along Bayou Manchac, in the southeastern part of the parish. Amagon soils are similar to Dundee soils in many respects but are more poorly drained.

Most areas of Amagon soils are in mixed hardwood forest. Areas that have been cleared are used primarily for pasture.

In this parish Amagon soils are mapped only as parts of complexes with Dundee soils. The complexes are described under the Dundee series.

Representative profile of Amagon silt loam, in a pasture located 200 feet west of Jefferson Highway and 700 feet north of Bayou Manchac, in the southeastern part of sec. 38, T. 8 S., R. 2 E.

A1—0 to 1 inch, dark grayish-brown (10YR 4/2) silt loam with common, fine, faint, dark-gray (10YR 4/1) mottles; moderate, medium and coarse, granular structure; friable; strongly acid; abrupt, smooth boundary.

A2g—1 inch to 6 inches, gray (10YR 5/1) silt loam with common, fine, distinct, dark yellowish-brown (10YR 4/4) mottles; irregularly shaped clods that break to weak, medium and fine, granular structure; friable; strongly acid; gradual, smooth boundary.

B21tg—6 to 9 inches, gray (10YR 5/1) silty clay loam with many, fine, distinct, dark yellowish-brown (10YR 4/4) mottles; coarse subangular blocky structure; slightly plastic; almost continuous clay films; clay films in pores and root channels; few pores; strongly acid; clear, smooth boundary.

B22tg—9 to 18 inches, grayish-brown (2.5Y 5/2) silty clay loam with few, fine, prominent, brown (10YR 5/3) mottles; strong, medium, prismatic structure and moderate, medium, subangular blocky structure; friable; almost continuous, thin clay films on peds; clay films in some pores and root channels; many fine pores; few, hard, brown concretions; medium acid; gradual, irregular boundary.

B23tg—18 to 30 inches, grayish-brown (2.5Y 5/2) silty clay loam with few, fine, distinct, yellowish-brown (10YR 5/4) mottles; strong, medium and coarse, prismatic structure breaking to moderate, medium and coarse, subangular blocky; slightly plastic; almost continuous, grayish-brown (10YR 5/2) clay films on peds; clay films in some pores and root channels; many fine pores; few, brown and black, hard and soft concretions; medium acid; diffuse, irregular boundary.

B3tg—30 to 36 inches, gray (10YR 6/1) silt loam with common, fine, distinct, dark yellowish-brown mottles; weak, coarse, prismatic structure; few grayish-brown (10YR 5/2) clay films, mostly in pores and root channels; friable; few fine pores; slightly acid; gradual, irregular boundary.

C—36 to 46 inches, gray (10YR 6/1) silt loam with a few strata, 1 inch to 2 inches thick, of gray silty clay loam; few, medium, prominent, yellowish-brown (10YR 5/4) mottles; massive; friable; 10 percent brown and black, soft and hard concretions; slightly acid.

The A horizon ranges from silt loam to silty clay loam in texture, from grayish brown to gray in color, and from 5 to about 15 inches in thickness. The B2 horizon ranges from grayish brown to gray. The strata of silty clay loam are in some places absent from the C horizon. The reaction is medium acid to very strongly acid in the uppermost 18 inches and is medium acid to slightly acid below that depth.

Bonn Series

The Bonn series consists of poorly drained, very slowly permeable soils that have an acid surface layer and an alkaline subsoil. The sodium content is high throughout the subsoil. These soils formed in loesslike material. They have a surface layer of dark grayish-brown to gray silt loam and a subsoil of light olive-gray or gray silt loam or silty clay loam. The underlying material is gray silt loam.

Bonn soils occur in many small, level or nearly level areas and in depressions throughout the parish. They commonly adjoin Calhoun, Frost, and Fountain soils, which are also poorly drained but lack the high content of sodium. Bonn soils resemble Lafe and Verdun soils in many respects but are more poorly drained.

Most areas of Bonn soils are in grass and open stands of mixed hardwoods. Areas that have been cleared are used primarily for pasture.

In this parish Bonn soils are mapped only with Calhoun and Fountain soils. The mapping units are described under those series.

Representative profile of Bonn silt loam in a pasture of carpetgrass located three-fourths of a mile southwest of the Baywood Church, in the southern part of sec. 18, T. 4 S., R. 3 E. Physical and chemical test data (sample No. S3) are shown in table 8, and clay mineral data are shown in table 9.

A1—0 to 1 inch, very dark brown (10YR 2/2) silt loam; strong, medium, granular structure; friable; strongly acid; abrupt, smooth boundary.

A21—1 inch to 3 inches, grayish-brown (10YR 5/2) silt loam with fine, faint, light brownish-gray (10YR 6/2) mottles; massive (structureless) to weak, medium, granular structure; friable; strongly acid; clear, smooth boundary.

A22—3 to 8 inches, grayish-brown (10YR 5/2) silt loam with many, fine, faint, light brownish-gray (10YR 6/2) mottles; massive (structureless) to weak, coarse, prismatic structure; slightly firm to friable; many fine pores; many root channels filled with light-gray and yellowish-brown silt loam; strongly acid; gradual, smooth boundary.

A&B—8 to 12 inches, gray (10YR 6/1) silt loam; weak, coarse, columnar structure with few biscuit-shaped caps of very dark gray (10YR 3/1) clay; firm to friable; peds coated with light-gray silt; fine pores; strongly acid; gradual, smooth boundary.

B&A—12 to 16 inches, light-gray (5Y 7/1) silt loam; moderate, medium, prismatic structure breaking to moderate, medium, subangular blocky; friable; very dark gray clay films on few peds and in some pores; many fine pores; thick tongues of light-gray, silty material from the A2 horizon; some varvelike lenses of light-gray silt and dark-gray clay; slightly acid; clear, wavy boundary.

B21tg—16 to 36 inches, light olive-gray (5Y 6/2) heavy silt loam; weak, coarse, prismatic structure; firm; common krotovinas and vertical veins of gray silt loam; very dark gray clay films in some pores and root channels; few fine pores; 5 percent soft, black concretions; neutral to mildly alkaline; gradual, wavy boundary.

B22tg—36 to 42 inches, light olive-gray (5Y 6/2) heavy silt loam with light-gray (5Y 7/2) and yellowish-brown (10YR 5/6) mottles; massive (structureless) to weak, coarse, prismatic structure; friable; common vertical veins of light-gray silt loam; dark gray and very dark gray clay films in some pores; few pores; 2 percent soft, black concretions; mildly alkaline.

The A1 horizon ranges from dark gray to dark grayish brown to grayish brown in color and from 1 to 4 inches in thickness.

The B horizon, which occurs at a depth of 12 to 18 inches, ranges from heavy silt loam to silty clay loam. The clay films range from few to many. The reaction ranges from strongly acid to moderately alkaline in the A horizon and from medium acid to moderately alkaline in the B horizon.

Cahaba Series

The Cahaba series consists of well-drained, moderately permeable to moderately rapidly permeable, acid soils that formed in sandy alluvium. These soils have a surface layer of brown to yellowish-brown sandy loam and a subsoil of reddish-brown and yellowish-red sandy clay loam or clay loam. The underlying material consists of sandy loam, loamy sand, and sand. Gravel occurs in some places.

Cahaba soils occur in fairly small areas on narrow natural levees along the flood plains of the Amite River and the Comite River. The slope ranges from 1 to 8 percent but is mainly between 1 and 3 percent. Cahaba soils commonly adjoin Dexter, Memphis, Freeland, Loring, and Olivier soils but are less silty and more sandy. Unlike Freeland, Loring, and Olivier soils, Cahaba soils lack a fragipan.

Most areas of Cahaba soils are in forest consisting of pines and a few hardwoods. Areas that have been cleared are used for pasture and cultivated crops.

Representative profile of Cahaba sandy loam, in a pasture of native grass located near the Millican cemetery, in the SW¼NW¼ sec. 1, T. 5 S., R. 1 E. Physical and chemical test data (sample No. S61La–17–52) are shown in table 8, and clay mineral data are shown in table 9.

Ap—0 to 4 inches, dark-brown (10YR 4/3) sandy loam; weak, medium and coarse, granular structure; friable; strongly acid; clear, smooth boundary.

A2—4 to 10 inches, yellowish-brown (10YR 5/6) sandy loam; massive, breaking to coarse cloddy; friable; many coarse pores; few root channels filled with dark-brown sandy clay loam; few brown worm casts; very strongly acid; gradual, irregular boundary.

A2&B—10 to 13 inches, reddish-brown (5YR 4/4) sandy clay loam; moderate, medium, subangular blocky structure; friable; about 50 percent vertical veins of strong-brown sandy loam; many fine and coarse pores; many yellowish-brown worm casts; very strongly acid; clear, irregular boundary.

B21t—13 to 19 inches, reddish-brown (5YR 4/4) sandy clay loam; moderate to strong, medium, subangular blocky structure; friable; some clay films bridging sand grains; numerous pores; few vertical tongues of brown sandy loam; very strongly acid; clear, smooth boundary.

B22t—19 to 26 inches, yellowish-red (5YR 4/6) sandy clay loam; moderate to strong, medium, subangular blocky structure; friable; some clay films bridging sand grains; many fine and coarse pores; very strongly acid; gradual, irregular boundary.

B3—26 to 34 inches, dark-brown (7.5YR 4/4) sandy loam; weak, medium, subangular blocky structure; friable; numerous pores; very strongly acid; clear, smooth boundary.

IIC1—34 to 42 inches, dark-brown (7.5YR 4/4) sandy loam or loamy sand; structureless; loose; common pores; few vertical veins of brown sandy loam; very strongly acid; clear, smooth boundary.

IIC2—42 to 52 inches, loose quartz sand stained with very pale brown (10YR 8/3) and brownish yellow (10YR 6/6); single grain; strongly acid.

The Ap and A2 horizons range from brown to yellowish brown in color. The B2t horizon ranges from sandy clay loam to clay loam in texture and from strong brown to yellowish red or reddish brown in color. The IIC horizon ranges from sandy loam to sand and gravel. The reaction is strongly acid to very strongly acid throughout.

Cahaba sandy loam, 1 to 3 percent slopes (CaB).—This soil occurs along the Amite River and the Comite River.

The surface layer is brown, friable sandy loam. The subsoil, to a depth of 34 inches, is reddish-brown and yellowish-red, friable sandy clay loam. The underlying material is brown, stratified loamy sand and sand.

Included in the areas mapped are a few small areas made up entirely of sandy loam and loamy sand, small areas that have a slope range of 3 to 8 percent, and small areas of Dexter soils.

This soil is easy to work and is in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction ranges from strongly acid to very strongly acid. Lime generally is needed.

Runoff is medium, and permeability is moderate to moderately rapid. The supply of moisture generally is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Erosion control is needed if clean-tilled crops are grown.

About 50 percent of the acreage is in pine forest, more than 35 percent is in pasture, and a small acreage is cultivated.

This soil is suited to most of the crops commonly grown in the parish. (Capability unit IIe-1; woodland suitability group 2; wildlife suitability group 3)

Calhoun Series

The Calhoun series consists of poorly drained, slowly to very slowly permeable, acid soils that formed in loesslike material. These soils have a surface layer of grayish-brown or light brownish-gray silt loam over light brownish-gray or gray silty clay loam and silt loam mottled with yellow and brown.

Calhoun soils are mainly level or nearly level, but some are depressional. These soils occur throughout the parish and commonly adjoin Frost, Zachary, Bonn, Oliver, Deerford, and Fountain soils. Calhoun soils are similar to Frost and Zachary soils in many respects, but their surface layer is thinner than that of Zachary soils, and their subsoil lacks the dark-colored films present in Frost soils. Calhoun soils are more acid than Deerford, Bonn, and Fountain soils and are more poorly drained than Olivier soils.

Calhoun soils are mainly in forest consisting of mixed hardwoods and some pines. Small areas have been developed for urban use. Most of the cleared areas are used for pasture, but some are used for cultivated crops.

Representative profile of Calhoun silt loam, located 0.6 mile west of Deerford and 200 feet south of Moses Chapel, NW¼SE¼ sec. 2, T. 5 S., R. 1 E. Physical and chemical test data (sample No. S5) are shown in table 8, and clay mineral data are shown in table 9.

Ap—0 to 3 inches, brown (10YR 4/3) silt loam; moderate, fine, granular structure; friable; many roots; few brown concretions; strongly acid; abrupt, smooth boundary.

A2g—3 to 12 inches, light brownish-gray (10YR 6/2) silt loam with common, fine, distinct, light yellowish-brown (10YR 6/4) mottles; massive (structureless) to weak, coarse, subangular blocky structure; firm to friable; few, soft, reddish-brown concretions; strongly acid; gradual, wavy boundary.

A&B—12 to 20 inches, light-gray (10YR 7/2) silt loam; massive; firm; 20 percent yellowish-brown (10YR 5/6) silty clay loam with weak prismatic structure; very strongly acid; gradual, smooth boundary.

B2tg—20 to 30 inches, light brownish-gray (10YR 6/2) silty clay loam with common, fine, distinct, yellowish-brown (10YR 5/4) mottles; weak, coarse, prismatic structure that breaks to weak, coarse, subangular blocky; firm to friable; several tongues of light-gray silt loam; few brown and black concretions; very strongly acid; gradual, wavy boundary.

Cg—30 to 42 inches, light brownish-gray (2.5Y 6/2) heavy silt loam with brownish-yellow (10YR 6/6) and light-gray (10YR 7/2) mottles; massive; friable; few brown and black concretions; very strongly acid.

The Ap horizon ranges from dark brown to light brownish gray in color and from 3 to 6 inches in thickness. In wooded areas there is an A1 horizon that ranges from 1 to 3 inches in thickness and from black (10YR 2/1) to dark grayish brown (10YR 4/2) in color. The A2g horizon is light gray to grayish brown and extends to a depth of 12 to 22 inches. The A&B horizon ranges from 2 to 12 inches in thickness. Tongues of gray silt or silt loam from the A2g horizon extend throughout the B horizon. The B horizon is silty clay loam to heavy silt loam. The solum ranges from 20 to more than 48 inches in thickness. The reaction ranges from medium acid to very strongly acid.

Calhoun silt loam (Cc).—This soil occurs throughout the parish, but is mainly in the northeastern part. Most of it is nearly level or depressional.

The surface layer is light brownish-gray to gray, friable silt loam and is 12 to 22 inches thick. The subsoil is brownish-gray or gray, friable to slightly firm silty clay loam mottled with brown and yellow. The underlying material is gray silt loam.

Included in the areas mapped are small areas of Frost soils, which have a darker colored subsoil, and of Bonn and Fountain soils, which have an alkaline subsoil.

This Calhoun soil is difficult to keep in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction ranges from medium acid to very strongly acid. Lime generally is needed.

This soil generally is wet in winter and spring, and some areas are flooded occasionally. The supply of moisture generally is adequate for cultivated crops and pasture plants, except during the drier periods in summer and fall. Runoff is slow to very slow, and permeability also is slow to very slow. Drainage and possibly flood control are needed if cultivated crops and pasture plants are grown.

About 80 percent of the acreage is in mixed hardwood forest and a few pines, and the rest is used mainly for pasture and hay (fig. 2). Only small areas are used for cultivated crops.

This soil is suited to most of the crops commonly grown in the parish. (Capability unit IIIw-4; woodland suitability group 1; wildlife suitability group 1)

Calhoun-Bonn and Fountain silt loams (Cf).—These level, nearly level, or depressional soils occur in numerous small areas throughout the northern half of the parish. Most delineations contain both Calhoun and Bonn soils; only a few contain Fountain soils.

The Calhoun soil has a surface layer of light brownish-gray, friable silt loam that ranges from 12 to 22 inches in thickness. The subsoil is gray, friable to slightly firm silty clay loam mottled with brown and yellow. It ranges from medium acid to very strongly acid.

The Bonn soil has a surface layer of gray, friable silt loam that ranges from 8 to 10 inches in thickness. The subsoil is light olive-gray silty clay loam with a few dark-colored clay films. It has a high content of sodium and

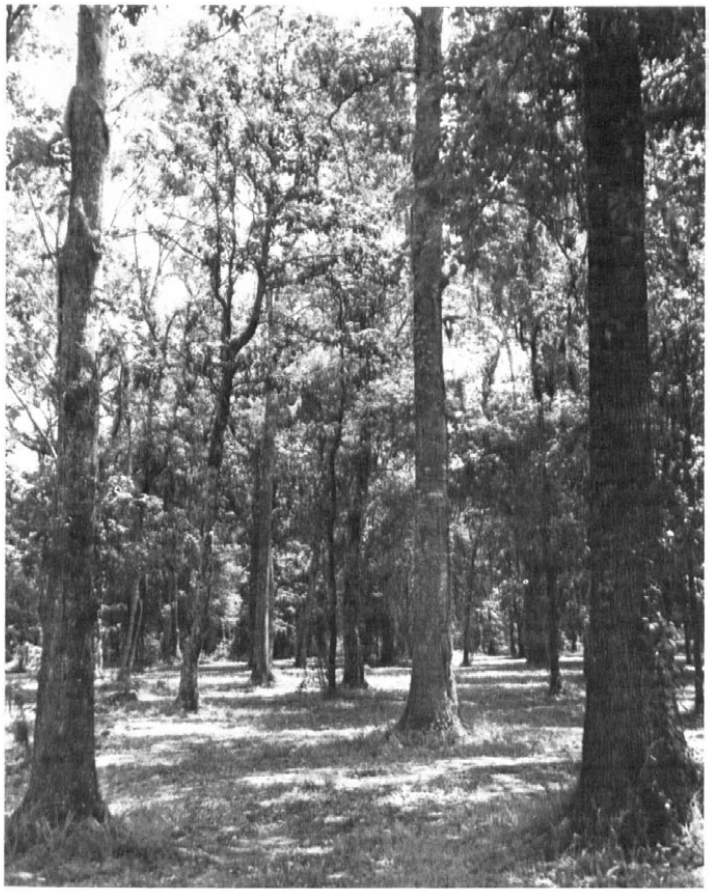

Figure 2.—Mixed hardwood forest in an area of Calhoun silt loam.

generally remains dry even in wet periods. The surface layer is strongly acid to mildly alkaline, and the subsoil is slightly to moderately alkaline.

The surface layer of the Fountain soil is gray, friable to firm silt loam and is 8 to 10 inches thick. The subsoil is gray, friable silty clay loam that commonly contains lime concretions. The surface layer is strongly acid to mildly alkaline, and the subsoil, which has lime concretions, is mildly alkaline.

These soils are low in nitrogen, phosphorus, and potassium. They generally are wet in winter and spring, and the Bonn soil is dry in summer and fall. Runoff is slow to very slow, and permeability is slow. Areas along natural drainageways are frequently flooded, and other areas are subject to occasional floods. Drainage and possibly flood control are needed if cultivated crops and pasture plants are grown.

Most of the acreage is in mixed hardwood forest. About 30 percent is in pasture.

These soils are fairly well suited to most of the crops commonly grown in the parish. (Capability unit IIIw-3; woodland suitability group 1 for the Calhoun soil and 5 for the Bonn and Fountain soils; all soils of this mapping unit are in wildlife suitability group 1)

Cascilla Series

The Cascilla series consists of well-drained, moderately permeable, acid soils that formed in silty alluvium. These soils have weakly developed horizons. The surface layer is dark-brown silt loam and the underlying material is dark-brown and yellowish-brown silt loam.

Cascilla soils occur mainly on the flood plains of the Comite River, the Amite River, and the tributaries of these streams. These soils are flooded once or twice each year. Most areas are on gently convex, undulating slopes of 1 to 3 percent, but some areas are level or nearly level. Cascilla soils commonly adjoin Falaya and Waverly soils and are similar to them in many respects but are better drained. Cascilla soils contain less sand than Ochlockonee soils.

Most areas of Cascilla soils are in forest consisting of mixed hardwoods and some pines. A small acreage is used for pasture.

Representative profile of Cascilla silt loam, in a mixed hardwood forest located 1½ miles southeast of the Greenwell Springs Sanitarium, in the eastern part of sec. 55, T. 5 S., R. 2 E.

A1—0 to 6 inches, dark-brown (10YR 4/3) silt loam; strong, medium, granular structure; friable; strongly acid; clear, smooth boundary.

B21—6 to 12 inches, dark-brown (10YR 4/3) silt loam; moderate, medium, subangular blocky structure; friable; many large and small pores; very strongly acid; gradual, smooth boundary.

B22—12 to 18 inches, dark-brown (10YR 4/3) silt loam; moderate, medium and fine, subangular blocky structure; friable; many large pores; very strongly acid; gradual, irregular boundary.

B31—18 to 30 inches, dark-brown (7.5YR 4/2) silt loam; strong, medium and fine, subangular blocky structure; friable; few pores; very strongly acid; gradual, irregular boundary.

B32—30 to 46 inches, yellowish-brown (10YR 5/4) silt loam; weak, fine and medium, subangular blocky structure; much dark-brown staining; friable; very strongly acid.

The A horizon ranges from very dark grayish brown to dark brown in color and from 6 to 10 inches in thickness. The B horizon is dark brown to yellowish brown. The reaction is strongly acid to very strongly acid throughout.

Cascilla silt loam, undulating, overflow (Cl).—This soil is on bottom lands along the eastern border of the parish and in the northeastern part. It is subject to annual floods. Most areas have a repeating pattern of gently convex, undulating ridges and narrow swales, but some areas are level or nearly level.

The surface layer is dark-brown, friable silt loam, and the underlying material is yellowish-brown or dark-brown, friable silt loam.

Included in the areas mapped are small areas of Waverly, Falaya, and Ochlockonee soils and areas that have gray or gray-mottled layers below a depth of 20 inches.

This soil is low in nitrogen, phosphorus, and potassium. It is moderately permeable. The reaction is strongly acid to very strongly acid.

Most of the acreage is in forest consisting of mixed hardwoods and some pines. About 5 percent is used for pasture, and a few small fields are planted to cultivated crops and to winter pasture containing ryegrass and oats.

These crops are likely to be damaged by floods. Summer pasture, woodland, wildlife, and recreation are suitable uses. (Capability unit Vw–1; woodland suitability group 4; wildlife suitability group 4)

Commerce Series

The Commerce series consists of somewhat poorly drained, moderately slowly permeable soils that formed in alluvium deposited by the Mississippi River. The surface layer, to a depth of about 20 inches, is dark grayish-brown and grayish-brown loam or silt loam, mottled in the lower part with other shades of brown. The underlying material is gray, mottled with shades of brown, stratified silt loam, very fine sandy loam, clay loam, or silty clay loam.

Commerce soils occur on natural levees of the Mississippi River flood plain. They are mostly level, but in a few narrow areas along Bayou Manchac, they have a slope range of 1 to 3 percent. These soils commonly adjoin Mhoon soils, which they resemble in many respects but are better drained.

Most areas of Commerce soils are used for cultivated crops and pasture.

Representative profile of Commerce loam, in a cultivated field located in the southeastern part of sec. 68, T. 8 S., R. 1 W.

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) loam; moderate, medium and fine, granular structure; friable; slightly acid; abrupt, smooth boundary.

A12—7 to 16 inches, grayish-brown (10YR 5/2) loam with common, medium, distinct, dark-brown (10YR 4/3) mottles; massive (structureless) to weak, thick, platy structure; friable; common worm casts; few, soft, black concretions; slightly acid; clear, smooth boundary.

A13—16 to 20 inches, grayish-brown (10YR 5/2) silt loam with common, medium and coarse, distinct, dark yellowish-brown (10YR 4/4) and yellowish-brown (10YR 5/8) mottles; massive (structureless) to weak, medium, subangular blocky structure; friable; few lenses, 1 inch to 2 inches thick, of silty clay loam; slightly acid; gradual, smooth boundary.

C1g—20 to 34 inches, gray (10YR 5/1) clay loam with grayish-brown (10YR 5/2) and brown (10YR 5/3) mottles; weak, medium, subangular blocky structure; friable; few black concretions; neutral; clear, smooth boundary.

C2g—34 to 44 inches, gray (10YR 5/1) very fine sandy loam with dark yellowish-brown (10YR 4/4) mottles; massive (structureless) to weak, medium, subangular blocky structure; friable; neutral; clear, smooth boundary.

C3g—44 to 51 inches, gray (10YR 5/1) very fine sandy loam with common, medium and coarse, distinct, dark yellowish-brown (10YR 4/4) mottles; few lenses, 1 inch to 3 inches thick, of silty clay loam; massive (structureless) to weak, medium, subangular blocky structure; friable; neutral.

The surface layer ranges from loam to silt loam in texture. At a depth of 16 to 34 inches, the texture ranges from silt loam to clay loam or silty clay loam, and below 20 to 30 inches, the color is dominantly gray. The reaction is medium acid to slightly acid in the uppermost 16 inches, is slightly acid to moderately alkaline to a depth of 20 inches, and is neutral to moderately alkaline below 20 inches.

Commerce loam (Co).—This soil is on natural levees of the Mississippi River, along the southern border of the parish.

The surface layer is a dark grayish-brown and grayish-brown, friable loam in the uppermost 4 to 6 inches. It is underlain by grayish-brown, friable silt loam to a depth of 20 inches. This material is mottled with brown and yellowish brown and contains strata of silty clay loam that are 2 to 4 inches thick. The underlying material is stratified silt loam, very fine sandy loam, or silty clay loam. It is gray with brown mottles. A plowpan has formed in most cultivated areas.

Included in the areas mapped are small areas of Mhoon soils and areas that have a brown silt loam surface layer and are free of mottles to a depth of 36 inches.

This Commerce soil is easy to work and is fairly easy to keep in good tilth, except that a plowpan is likely to form in cultivated areas. The content of phosphorus and potassium is high, and the content of nitrogen is low. The reaction is slightly acid to medium acid in the surface layer and neutral to moderately alkaline in the underlying material.

Runoff is slow to medium, and permeability is moderately slow. The supply of moisture is adequate for cultivated crops and pasture plants in most years. A few areas are subject to occasional floods of short duration. Drainage is needed in some areas if cultivated crops and pasture plants are grown.

This soil is well suited to most crops commonly grown in the parish. Most areas are used for pasture and hay. Only a few small areas are in cultivated crops. (Capability unit I–1; woodland suitability group 6; wildlife suitability group 2)

Crevasse Series

The Crevasse series consists of excessively drained, rapidly permeable, alkaline, sandy soils that formed in alluvium deposited by the Mississippi River. These soils are made up of pale-brown, grayish-brown, or yellowish-brown fine sand or loamy fine sand. They are subject to annual floods and to scouring or deposition.

Crevasse soils are level to moderately sloping. They occur in strips 50 to 200 feet wide on the banks of the Mississippi River along the western border of the parish and on the rim of Profit Island.

Crevasse soils are not used for cultivated crops, because of the hazard of flooding. Most areas are in mixed hardwood forest. The most recently deposited materials support only sparse vegetation.

Representative profile of Crevasse loamy fine sand, on the northern end of Profit Island in sec. 15, T. 5 S., R. 2 W.

A1—0 to 8 inches, pale-brown loamy fine sand; weak, granular structure; very friable; moderately alkaline; gradual, smooth boundary.

AC—8 to 20 inches, pale-brown loamy fine sand; single grain; loose; moderately alkaline; diffuse, irregular boundary.

C—20 to 48 inches, pale-brown fine sand; single grain; loose; moderately alkaline.

The A1 horizon ranges from pale brown to grayish brown or light yellowish brown in color and from fine sand to loamy fine sand in texture. The reaction ranges from neutral to moderately alkaline throughout.

Crevasse soils, overflow (Cr).—These soils are along the banks of the Mississippi River and on the rim of Profit Island.

The horizons are pale-brown, grayish-brown, or yellowish-brown fine sands and loamy sands that are loose or very friable. Areas that have been stabilized by plants have a loamy sand texture and a weak granular structure. The reaction is neutral to moderately alkaline.

These soils are rapidly permeable and droughty. Most areas are flooded once or twice each spring, and many areas are flooded even more frequently. All of the acreage is in mixed hardwoods. Willow trees rapidly cover the new deposits of sand.

Most areas of these soils are accessible only from the Mississippi River and are suitable mainly for the production of timber and for use as wildlife and recreation areas. They are not suitable for cultivated crops. (Capability unit Vw-2; woodland suitability group 6; wildlife suitability group 4)

Deerford Series

The Deerford series consists of somewhat poorly drained, very slowly permeable, acid soils that formed in loesslike material. The lower part of the subsoil is alkaline. The surface layer is brown or grayish-brown silt loam that is mottled with gray in the lower part. The subsoil is light olive-brown, yellowish-brown, or grayish-brown silty clay loam mottled with shades of brown, and the underlying material is yellowish-brown silt loam. The lower horizons of these soils are moderate to high in content of sodium.

Deerford soils are mainly in the northern part of the parish and in a broad belt that extends from northwest to southeast through the interior of the parish. The slope ranges up to 3 percent. These soils commonly adjoin Olivier, Verdun, and Fred soils. Deerford soils are similar to Verdun soils in many respects, but they lack the columnar structure, and only their lower horizons are high in sodium. Deerford soils lack the fragipan that is characteristic of Olivier soils. They are more poorly drained than Fred soils and have a higher content of sodium.

Most areas of Deerford soils are in mixed hardwood forest. Some areas have been developed for urban use, some are used primarily for pasture, and a small acreage is cultivated.

Representative profile of Deerford silt loam, in a pasture located 0.8 mile north-northwest of the intersection of the railroad and the main highway in Zachary, in the southeastern part of sec. 83, T. 4 S., R. 1 W. Physical and chemical test data (sample No. S62La-17-44) are shown in table 8, and clay mineral data are shown in table 9.

Ap—0 to 3 inches, brown (10YR 5/3) silt loam; moderate, fine, granular structure; friable; many fine pores; strongly acid; abrupt, smooth boundary.

A2—3 to 6 inches, brown (10YR 5/3) silt loam with common, fine and medium, faint, grayish-brown (10YR 5/2) and light brownish-gray (10YR 6/2) mottles; weak, thin or medium, platy structure; firm; many fine pores; common, fine, brown concretions; strongly acid; abrupt, smooth boundary.

A&B—6 to 10 inches, brown (10YR 5/3) silt loam with common, fine, faint, light brownish-gray (10YR 6/2) mottles; massive; firm; many pores; common worm casts of light brownish gray; many brown and black concretions, concentrated at lower boundary; 10 to 20 percent irregular blocks of mottled, dark yellowish-brown and brown silty clay loam; strongly acid; gradual, wavy boundary.

B21t—10 too 20 inches, mottled dark yellowish-brown (10YR 4/4), brown (10YR 5/3), and grayish-brown (10YR 5/2) silty clay loam; weak to moderate, medium, prismatic and subangular blocky structure; firm; almost continuous clay films of dark grayish brown on ped faces; few root channels coated with dark-gray clay films; common fine pores; common vertical veins of brown silt loam; strongly acid; gradual, wavy boundary.

B22t—20 to 34 inches, yellowish-brown (10YR 5/6) to light olive-brown (2.5Y 5/6) silty clay loam; massive (structureless) to weak, coarse, prismatic structure; firm; few fine pores; some root channels filled with dark-brown clay films; common, soft, black concretions; mildly alkaline; gradual, irregular boundary.

B3t—34 to 49 inches, light olive-brown (2.5Y 5/6) silt loam with common, fine, distinct, pale-brown (10YR 6/3) mottles and common, medium, distinct, yellowish-brown (10YR 5/6) mottles; massive; friable; common vertical veins of pale-brown silt loam; dark-brown clay films in few root channels; many fine pores; common, soft, black concretions; moderately alkaline; gradual, irregular boundary.

C—49 to 90 inches, yellowish-brown (10YR 5/6) silt loam with common, coarse, distinct mottles and vertical veins of grayish-brown (10YR 5/2) and light brownish-gray (10YR 6/2) silt loam; massive; friable; common, soft and hard, black and brown concretions; moderately alkaline.

The Ap horizon ranges from brown to grayish brown. The A2 horizon ranges from brown mottled with gray to predominantly gray in color and from 3 to 10 inches in thickness. Tongues of the lower A2 horizon extend into the uppermost 4 to 8 inches of the B2t horizon. The B2t horizon ranges from brown to yellowish brown in color and from 6 to 24 inches in thickness. The clay films, which range from few to almost continuous, are dark grayish brown to very dark gray. The texture of the B horizon ranges from silty clay loam to heavy silt loam. As much as 5 percent of the B and C horizons is mottled with gray or brownish gray. A few lime concretions are present in places at a depth of 18 to 30 inches.

Deerford silt loam (De).—Most areas of this soil are in a broad belt that extends from the northwest through the interior of the parish. They are mainly level or nearly level, but the slope ranges up to 3 percent.

The surface layer is a brown or grayish-brown, friable silt loam that is mottled with gray in the lower part. The subsoil is light olive-brown or yellowish-brown, firm silty clay loam that is mottled with shades of brown and has dark-colored clay films on the peds. Tongues of gray silt loam extend into the subsoil to a depth of about 14 inches. The underlying material is yellowish-brown, friable silt loam. The lower part of the subsoil has a high content of sodium.

Included in the areas mapped are small areas of Olivier, Verdun, and Fred soils. Also included are small areas that have a darker colored surface layer and mottles of reddish brown in the upper subsoil, and areas in which the subsoil does not have clay films.

This soil is fairly easy to work but generally is in poor tilth. It is low in nitrogen, phosphorus, and potassium. The reaction is medium acid to strongly acid to a depth of about 18 inches and mildly alkaline to moderately alkaline below that depth. Sodium in the lower subsoil somewhat restricts the root zone.

Runoff is slow in the level areas and medium on slopes of 1 to 3 percent. The supply of moisture is adequate for cultivated crops and pasture plants, except during the drier periods in summer and fall. Water stands in some places for a few days after heavy rains. Drainage is needed in some areas that are used for cultivated crops.

About 60 percent of the acreage is in mixed hardwood forest, 36 percent is used for pasture and hay, and a few areas have been developed for urban use. Only a few small fields are cultivated.

This soil is fairly well suited to most crops commonly grown in the parish. (Capability unit IIw-4; woodland suitability group 5; wildlife suitability group 2)

Deerford-Olivier silt loams, 0 to 1 percent slopes (DfA).—These soils occur in an intricate pattern, mostly in a broad belt that extends from northwest to southeast through the interior of the parish. About 60 percent of the acreage is Deerford silt loam, and about 30 percent is Olivier silt loam.

The Deerford soil has a brown or grayish-brown, friable surface layer that is mottled with gray in the lower part. The subsoil is grayish-brown, light olive-brown, or yellowish-brown, firm silty clay loam mottled with shades of brown and with dark-gray clay films and tongues of gray silt or silt loam. The lower part of the subsoil has a high content of sodium. The reaction is medium acid to very strongly acid to a depth of about 18 inches and neutral to moderately alkaline below that depth.

The Olivier soil has a grayish-brown and yellowish-brown, friable surface layer. The subsoil is yellowish-brown, friable silty clay loam that is mottled with shades of brown. The lower part is a fragipan of yellowish-brown, firm silt loam or silty clay loam with brown and gray mottles. The reaction is slightly acid to very strongly acid in the surface layer and strongly acid to very strongly acid in the subsoil.

Included in the areas mapped are small areas of Fred and Verdun soils.

These Deerford and Olivier soils are low in nitrogen, phosphorus, and potassium. Runoff is slow in most areas, and permeability is slow to very slow. The supply of moisture generally is adequate for cultivated crops and pasture plants, except during the drier periods in summer and fall. Water stands in some places for a few days after heavy rains. Drainage is needed in some areas that are used for cultivated crops.

About 42 percent of the acreage has been developed for urban use, 28 percent is used for pasture and hay, and 26 percent is in forest. Only small areas are cultivated.

These soils are fairly well suited to most crops commonly grown in the parish. (Capability unit IIw-4; woodland suitability group 5 for the Deerford soil and 2 for the Olivier soil; both soils are in wildlife suitability group 2)

Deerford-Olivier silt loams, 1 to 3 percent slopes (DfB).—These soils occur in an intricate pattern on short slopes, mostly in the southern and southeastern parts of the parish. About 60 percent of the acreage is Deerford silt loam, and 30 percent is Olivier silt loam.

The Deerford soil has a brown or grayish-brown, friable surface layer that is mottled with gray in the lower part. The subsoil is yellowish-brown or light olive-brown, firm silty clay loam mottled with shades of brown and with dark-colored clay films and tongues of gray silt loam. The underlying material is yellowish-brown, friable silt loam. The lower part of the subsoil has a high content of sodium and generally remains dry even in wet periods. The reaction is medium acid to very strongly acid in the uppermost 18 inches and neutral to moderately alkaline below that depth.

The Olivier soil has a grayish-brown and yellowish-brown, friable surface layer. The subsoil is yellowish-brown, friable silty clay loam mottled with brown. The lower part is a fragipan of yellowish-brown, firm silt loam or silty clay loam mottled with brown and gray. The reaction is slightly acid to very strongly acid in the surface layer and strongly acid to very strongly acid in the subsoil and fragipan.

These Deerford and Olivier soils are low in nitrogen, phosphorus, and potassium. Runoff is medium, and permeability is slow to very slow. The supply of moisture generally is adequate for cultivated crops and pasture plants, except during dry periods in summer and fall. Erosion control is needed if clean-tilled crops are grown.

Most of the acreage is used for pasture and hay. A small part is in mixed hardwood forest.

These soils are fairly well suited to most of the crops commonly grown in the parish. (Capability unit IIw-3; woodland suitability group 5 for the Deerford soil and 2 for the Olivier soil; both soils are in wildlife suitability group 3)

Deerford-Verdun silt loams (Dn).—These soils occur in an intricate pattern throughout the northeastern two-thirds of the parish. About 60 percent of the acreage is Deerford silt loam, and 30 percent is Verdun silt loam.

The Deerford soil has a brown or grayish-brown, friable surface layer that is mottled with gray in the lower part. The subsoil is grayish-brown or yellowish-brown, firm silty clay loam mottled with shades of brown and with dark-gray clay films and tongues of gray silt loam. The underlying material is yellowish-brown, friable silt loam. The lower part of the subsoil has a high content of sodium. The reaction is medium acid to very strongly acid to a depth of about 18 inches and neutral to alkaline below that depth.

The Verdun soil has a grayish-brown, friable surface layer mottled with gray and brown in the lower part. The subsoil is yellowish-brown, firm silty clay loam mottled with shades of brown and, in the lower part, gray. There are dark-colored clay coatings and gray silt coatings. The underlying material is yellowish-brown, friable silt loam that is mottled with gray and brown and normally contains a few lime concretions. The subsoil has a high content of sodium and generally remains dry even in wet periods. The reaction is strongly acid to moderately alkaline in the surface layer and slightly acid to moderately alkaline in the subsoil.

Included in the areas mapped are small areas of Fred, Essen, and Olivier soils.

The soils of this complex are low in nitrogen, phosphorus, and potassium. Runoff is slow, and permeability is slow to very slow. A few areas are subject to occasional floods of short duration. During the drier periods in summer and fall, the supply of moisture generally is not adequate for cultivated crops and pasture plants. Drainage is needed in some areas that are used for cultivated crops.

About 48 percent of the acreage is in pasture, 30 percent has been developed for urban use, and 21 percent is in mixed hardwood forest. Small areas are used for garden crops and truck crops.

These soils are suitable for shallow-rooted plants that grow in cool seasons when the supply of moisture is adequate. They are not well suited to most cultivated crops, because the root zone, especially that of the Verdun soil, contains sodium and holds little available moisture. (Capability unit IIIs-1; woodland suitability group 5; wildlife suitability group 2)

Dexter Series

The Dexter series consists of well-drained, moderately permeable, acid soils that formed in alluvium. These soils have a surface layer of dark grayish-brown very fine sandy loam and a subsoil of dark yellowish-brown to dark-brown or yellowish-red silty clay loam, clay loam, or sandy clay loam. The underlying material is strong-brown or yellowish-red fine sandy loam.

Dexter soils occur in small areas on natural levees of the Amite River and the Comite River. Some are level or nearly level, and some are on narrow convex ridges and narrow escarpments. The slope range is 0 to 3 percent. These soils commonly adjoin Memphis, Cahaba, Freeland, Loring, and Olivier soils. Dexter soils are similar to Memphis soils in many respects but contain more sand. They contain less sand than Cahaba soils. Dexter soils lack the fragipan that occurs in Freeland, Loring, and Olivier soils.

About half the acreage of Dexter soils is in pine forest. Areas that have been cleared are used mainly for pasture and hay, but to some extent for cultivated crops.

Representative profile of Dexter very fine sandy loam, in a cornfield located 1.7 miles southeast of Central, in the west-central part of sec. 67, T. 6 S., R. 2 E.

Ap1—0 to 4 inches, very dark grayish-brown (10YR 3/2) very fine sandy loam; moderate, medium and fine, granular structure; friable; strongly acid; abrupt, smooth boundary.

Ap2—4 to 7 inches, dark grayish-brown (10YR 4/2) very fine sandy loam; moderate, medium and coarse, granular structure and weak, medium, platy structure; friable; common worm casts; few large pores; strongly acid; clear, smooth boundary.

B1—7 to 16 inches, dark yellowish-brown (10YR 4/4) light silty clay loam; irregular, massive clods; friable; common worm casts; many fine pores; strongly acid; gradual, wavy boundary.

B21t—16 to 19 inches, dark yellowish-brown (10YR 4/4) silty clay loam; weak, coarse, subangular blocky structure; friable; few thin, patchy, dark yellowish-brown clay films on some peds, in root channels, and in pores; common fine and coarse pores: very strongly acid; clear, wavy boundary.

B22t—19 to 30 inches, dark-brown (7.5YR 4/4) silty clay loam; moderate, medium, prismatic and subangular blocky structure; friable; patchy, dark-brown clay films on vertical and horizontal faces of peds and in some pores; common pores; very strongly acid; gradual, wavy boundary.

B31t—30 to 43 inches, dark-brown (7.5YR 4/4) sandy clay loam; weak prismatic structure and weak, medium, subangular blocky structure; friable; few, dark-brown patchy clay films; common pores; few root channels filled with brown very fine sandy loam; very strongly acid; clear, wavy boundary.

B32t—43 to 52 inches, dark-brown (7.5YR 4/4) sandy clay loam; coarse prismatic structure that breaks to moderate, medium, subangular blocky; common yellowish-red clay films on some ped faces; firm; common vertical veins and root channels filled with light brownish-gray sandy loam; very strongly acid; abrupt, wavy boundary.

C—52 to 66 inches, strong-brown (7.5YR 5/6) fine sandy loam; structureless; loose; very strongly acid.

In color, the A horizon ranges from brown to very dark grayish brown, and the Bt horizon from dark brown to dark yellowish brown or yellowish red. The B2t horizon normally is silty clay loam, but it grades toward clay loam. The depth to the B3 horizon, which is fine sandy loam to sandy clay loam, ranges from 20 to 36 inches. The surface layer is medium acid to strongly acid, and the subsoil and substratum are strongly acid to very strongly acid.

Dexter very fine sandy loam, 0 to 1 percent slopes (DrA).—This soil is mainly along the Amite River, but small areas are along the Comite River.

The surface layer is a dark grayish-brown, friable very fine sandy loam about 7 to 12 inches thick. It is underlain by dark-brown or yellowish-red, friable silty clay loam. At a depth of about 30 inches, the material is friable fine sandy loam or sandy clay loam.

This soil is low in nitrogen, phosphorus, and potassium. The surface layer is strongly acid, and the subsoil is very strongly acid. Lime generally is needed.

Runoff is medium, and permeability is moderate. A few areas are subject to occasional floods of short duration. In most years the supply of moisture is adequate for cultivated crops and pasture plants.

About 50 percent of the acreage is in pine forest, 40 percent is used for pasture and hay, and small areas are cultivated.

This is one of the better soils in the parish for farming. It is well suited to most of the crops commonly grown. (Capability unit I-2; woodland suitability group 2; wildlife suitability group 3)

Dexter very fine sandy loam, 1 to 3 percent slopes (DrB).—This soil is mainly in small, widely scattered areas on natural levees of the Amite River and the Comite River. Some areas are on narrow ridges that have convex slopes; others are on short side slopes.

The surface layer is a dark-brown, friable very fine sandy loam. The subsoil is brown or yellowish-red, friable silty clay loam that extends to a depth of about 30 inches. The underlying material is brown or yellowish-red fine sandy loam.

This soil is easy to work and to keep in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction ranges from strongly acid to very strongly acid. Lime generally is needed.

Runoff is medium, and permeability is moderate. In most years the supply of moisture is adequate for cultivated crops and pasture plants. Erosion control is needed if clean-tilled crops are grown.

About 45 percent of the acreage is used for pasture and hay, and 45 percent is in pine forest. Only a few small fields are cultivated.

This is an excellent soil for most crops commonly grown in the parish. (Capability unit IIe-1; woodland suitability group 2; wildlife suitability group 3)

Dundee Series

The Dundee series consists of somewhat poorly drained, moderately slowly permeable, acid soils that formed primarily in alluvium deposited by the Mississippi River. These soils have a surface layer of dark grayish-brown silt loam or silty clay loam and a grayish-brown or yellowish-brown subsoil of silty clay loam or clay loam mottled with brown and gray. The underlying material is grayish-brown loam, silt loam, or sandy loam.

Dundee soils occur on ridges and in swales on the flood plain of the Mississippi River in the southwestern part of the parish and along Bayou Manchac in the southeastern part. They generally have complex slopes, but in some areas they are nearly level. Dundee soils commonly adjoin Amagon, Tensas, and Sharkey soils. They are better drained than Amagon and Sharkey soils.

About two-thirds of the acreage of Dundee soils is in mixed hardwood forest. Areas that have been cleared are used mainly for pasture, but a small acreage is cultivated.

Representative profile of Dundee silt loam, in a pasture located 1¼ miles west of Arlington Station and 200 feet north of Brightside Drive, in the north-central part of sec. 61, T. 8 S., R. 1 W.

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) silt loam; weak, fine and medium, granular structure; friable; strongly acid; clear, smooth boundary.

B21t—7 to 10 inches, dark grayish-brown (10YR 4/2) silty clay loam with dark yellowish-brown (10YR 4/4) mottles; moderate, coarse, prismatic structure and moderate, medium, subangular blocky structure; slightly plastic; almost continuous, dark-gray clay films; strongly acid; gradual, smooth boundary.

B22t—10 to 18 inches, mottled yellowish-brown (10YR 5/4), gray (10YR 5/1), and grayish-brown (10YR 5/2) silty clay loam; strong, medium, prismatic and subangular blocky structure; slightly plastic; grayish-brown clay films on all peds; few dark-gray clay films; medium acid; diffuse, irregular boundary.

B23t—18 to 24 inches, grayish-brown (10YR 5/2) clay loam with common, fine, distinct, yellowish-brown (10YR 5/4) and dark yellowish-brown (10YR 4/4) mottles; weak to moderate, coarse, prismatic structure; friable; thin, patchy, grayish-brown clay films; few fine pores; few, soft, brown and black concretions; medium acid; diffuse, irregular boundary.

B3—24 to 32 inches, grayish-brown (10YR 5/2) heavy loam with common, fine, distinct, yellowish-brown (10YR 5/4) and dark yellowish-brown (10YR 4/4) mottles; weak, coarse, prismatic structure; friable; medium acid; diffuse, irregular boundary.

C—32 to 44 inches, grayish-brown (10YR 5/2) loam with common, fine, distinct, dark-yellowish-brown (10YR 4/4) mottles; massive; friable; medium acid.

The Ap horizon ranges from grayish brown to dark grayish brown in color and from silt loam to silty clay loam in texture. The thickness of the B2 horizon ranges from 10 to 26 inches. The texture of the B3 and C horizons ranges from silt loam to silty clay loam.

Dundee-Amagon complex, 0 to 1 percent slopes (DuA).—This complex is in small areas along Bayou Manchac, in the southeastern part of the parish. About 65 percent of the acreage consists of somewhat poorly drained Dundee silt loam and Dundee silty clay loam, and 35 percent of poorly drained Amagon silt loam and Amagon silty clay loam.

The Dundee soil has a grayish-brown, friable surface layer. The subsoil is grayish-brown silty clay loam that is mottled with brown and gray and has grayish-brown clay films and dark-colored ped coatings in the upper part. The underlying material is grayish-brown silt loam or loam mottled with gray and brown. The reaction is medium acid to strongly acid to a depth of about 16 inches and medium acid to neutral below that depth.

The surface layer of the Amagon soil is gray mottled with brown. The subsoil, to a depth of 30 inches, is grayish-brown or gray silty clay loam. The underlying material is gray silt loam with strata of silty clay loam. The reaction is medium acid to strongly acid to a depth of 18 inches and is medium acid to slightly acid below that depth.

The soils of this complex are moderately low in phosphorus and potassium and low in nitrogen. Lime may be needed. Runoff is slow, and permeability also is slow. Low areas are flooded once or twice each year, and other areas are subject to occasional floods. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage and possibly flood control are needed if crops are grown.

Most of the acreage is in mixed hardwood forest, but about one-third is in pasture.

These soils are suited to most of the crops commonly grown in the parish. (Capability unit IIIw-1; woodland suitability group 6; wildlife suitability group 1)

Dundee-Amagon complex, undulating (DuB).—This complex is on irregular slopes along Bayou Manchac, on the southeastern border of the parish. About 65 percent of the acreage is Dundee silt loam and Dundee silty clay loam, on gently convex ridges, and 35 percent is Amagon silt loam and Amagon silty clay loam, in level areas and depressions between the ridges.

The Dundee soil has a grayish-brown surface layer. The subsoil is grayish-brown silty clay loam with brown and gray mottles and, in the upper part, dark-gray clay films. The underlying material is gray or grayish-brown, friable silt loam or loam.

The Amagon soil has a gray surface layer mottled with brown. The subsoil is gray silty clay loam mottled with brown. The underlying material is gray stratified silt loam, silty clay loam, and silty clay.

The soils of this complex are moderately low in phosphorus and potassium and low in nitrogen. The reaction is slightly acid to strongly acid. The Amagon soil has slow runoff and the Dundee soil medium runoff. Permeability is slow in both soils. Some areas are subject to floods once or twice each year. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage and possibly flood control are needed if crops are grown.

Most of the acreage is in mixed hardwood forest, but about one-fourth is in pasture.

These soils are well suited to grasses and legumes. They are difficult to manage for cultivated crops because the slopes are short and irregular and the soils are wet. (Capability unit IIIw-1; woodland suitability group 6; wildlife suitability group 1)

Dundee-Tensas-Sharkey complex, undulating (DyB).—These soils form an intricate pattern on short, irregular slopes on the flood plain of the Mississippi River, in the southern part of the parish. About 40 percent of the acreage is Dundee soil, 40 percent is Tensas soil, and 20 percent is Sharkey soil. The Dundee soil, which is somewhat poorly drained, and the Tensas soil, which is poorly drained, are on gently convex ridges. The Sharkey soil, which is poorly drained, is in swales between the ridges.

The Dundee soil has a surface layer of dark grayish-brown silt loam or silty clay loam. The subsoil, to a depth of 30 inches, is grayish-brown silty clay loam that is mottled with brown and gray and has dark-gray clay films. The underlying material is grayish-brown silt loam or very fine sandy loam mottled with gray and brown. The reaction ranges from medium acid to strongly acid.

The surface layer of the Tensas soil is very dark grayish-brown clay about 5 to 12 inches thick. The subsoil, to a depth of 24 inches, is gray, plastic clay. The underlying material is gray, friable silt loam or silty clay loam. The reaction ranges from very strongly acid to mildly alkaline.

The surface layer of the Sharkey soil is very dark grayish-brown or dark-gray, plastic clay about 6 to 8 inches thick. The subsoil is dark-gray or gray clay mottled with brown. The reaction is medium acid to moderately alkaline in the surface layer and neutral to moderately alkaline in the subsoil.

The soils of this complex can be worked within only a narrow range of moisture content. The Dundee soil has medium runoff and moderately slow permeability. The Tensas and Sharkey soils have slow to very slow runoff and very slow permeability. A few areas are subject to occasional floods of short duration. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage is needed if these crops are grown in the swales.

Most of this complex is in mixed hardwood forest, but about one-third is used for pasture.

These soils are suited to most pasture plants commonly grown in the parish. Management for cultivated crops is difficult because the swales are wet and the slopes are irregular. (Capability unit IIIw-1; woodland suitability group 6; wildlife suitability group 1)

Essen Series

The Essen series consists of somewhat poorly drained, moderately slowly permeable, alkaline soils that formed in loesslike material. These soils have a surface layer of dark grayish-brown or grayish-brown silt loam and a subsoil of olive-brown silty clay loam or heavy silt loam mottled with gray and brown. The underlying material is silt loam mottled with brown and gray.

Essen soils are nearly level and occur in small areas throughout the parish. They commonly adjoin Fountain, Lafe, Calhoun, and Frost soils. Essen soils are similar to Fountain soils in many respects but are better drained. They do not have the high sodium content of Lafe soils. Essen soils are better drained and more alkaline than Calhoun and Frost soils.

Most areas of Essen soils are in mixed hardwood forest or have been developed for urban use. Except for a small acreage in cultivated crops, the rest is used for pasture.

Representative profile of Essen silt loam, in a cornfield located 0.7 mile west-southwest of the intersection of Perkins Road and Essen Lane, sec. 42, T. 7 S., R. 1 E. Physical and chemical test data (sample No. S62La-17-43) are given in table 8, and clay mineral data are given in table 9.

Ap1—0 to 3 inches, dark grayish-brown (10YR 4/2) silt loam; in clods that break to moderate, medium and fine, granular structure; friable; very porous; numerous fine and coarse pores; medium acid; abrupt, smooth boundary.

Ap2—3 to 6 inches, dark grayish-brown (10YR 4/2) silt loam; strong, thin and medium, platy structure; friable; many fine pores; common dark-brown films in root channels; medium acid; abrupt, smooth boundary.

B1—6 to 14 inches, light olive-brown (2.5Y 5/4) silty clay loam with common grayish-brown mottles and root channel fillings; massive; friable; common fine root channels coated with dark-brown material and few root channels coated with gray silt loam; few, hard, brown concretions; moderately alkaline; gradual, smooth boundary.

B2t—14 to 28 inches, olive-brown (2.5Y 4/4) silty clay loam with common, medium and coarse, distinct, grayish-brown (2.5Y 5/2) and gray (N 5/0) mottles; weak to moderate, medium, prismatic and subangular blocky structure; thin gray (10YR 5/1) clay films on vertical and horizontal faces of peds; friable; many fine pores; few, soft, brown concretions; few hard concretions of calcium carbonate below a depth of 21 inches; moderately alkaline; gradual, wavy boundary.

B3t—28 to 51 inches, yellowish-brown (10YR 5/6) silt loam with common, fine, distinct, grayish-brown (10YR 5/2) mottles; massive (structureless) to weak, coarse, prismatic structure; friable; few, thin, patchy, gray clay films; common vertical veins of grayish-brown and gray silty clay loam; many fine pores; common, soft, black concretions; few hard concretions of calcium carbonate between depths of 21 and 32 inches; moderately alkaline; gradual, wavy boundary.

C—51 to 75 inches, mottled yellowish-brown (10YR 5/6), gray (10YR 5/1), and light brownish-gray (10YR 6/2) silt loam; massive; friable; common vertical veins of gray silty clay loam; few brown concretions and few, soft, black concretions; mildly alkaline.

The Ap horizon ranges from dark grayish brown to grayish brown in color. The B1 horizon is 6 to 10 inches thick. The B2 horizon ranges from 14 to 20 inches in thickness and from heavy silty clay loam to heavy silt loam in texture. Lime concretions normally occur below a depth of 18 to 36 inches but are lacking in some places. The reaction is strongly acid to moderately alkaline to a depth of 18 inches and neutral to moderately alkaline below that depth.

Essen silt loam (En).—This soil is in small areas, mostly in the southern part of the parish. Most areas are level, but a few small areas have a slope range of 2 or 3 percent.

The surface layer is dark grayish-brown, friable silt loam. The subsoil, to a depth of 24 inches, is olive-brown, friable silty clay loam mottled with grayish brown and gray. In many places there are a few lime concretions below a depth of 20 inches.

This soil is low in nitrogen, phosphorus, and potassium. The reaction is strongly acid to moderately alkaline in the surface layer and moderately alkaline in the subsoil. Runoff is slow, and permeability is moderately slow. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Water stands in some places for a few days after heavy rains. Drainage is needed in some areas that are used for cultivated crops.

This soil is suited to most of the locally grown crops. (Capability unit IIw-4; woodland suitability group 5; wildlife suitability group 2)

Essen and Lafe silt loams (Es).—These soils occur in numerous small areas, mostly in the northeastern part of the parish. Some delineations contain Essen silt loam, some contain Lafe silt loam, and some contain both soils.

The Essen soil has a dark grayish-brown, friable surface layer about 6 to 10 inches thick. The subsoil is olive-brown, friable silty clay loam mottled with grayish brown and gray. Below a depth of 30 inches is friable, light olive-brown silt loam mottled with gray. The reaction is strongly acid to moderately alkaline in the surface layer and mildly alkaline to moderately alkaline in the subsoil and substratum. In many places there are a few lime concretions below a depth of 20 inches.

The Lafe soil has a grayish-brown, friable to firm surface layer. The subsoil, to a depth of 24 inches, is yellowish-brown, firm silty clay loam that is mottled with gray or grayish brown and has ped coatings of dark-gray clay and gray silt. The underlying material is gray, firm to friable silt loam mottled with brown. The subsoil has a high content of sodium and generally remains dry even in wet periods. The reaction is strongly acid to moderately alkaline in the surface layer and neutral to moderately alkaline in the subsoil and substratum.

Included in the areas mapped are small areas of Deerford, Fountain, Bonn, Frost, and Calhoun soils.

Essen and Lafe silt loams generally are only fair to poor in tilth and are low in nitrogen, phosphorus, and potassium. Preparing a seedbed is somewhat difficult.

Runoff is slow, and permeability is moderately slow to very slow. A few areas are subject to occasional floods of short duration. During the drier periods in summer and fall, the moisture supply of the Lafe soil is not adequate for cultivated crops and pasture plants. Drainage is needed in some places if these crops are grown.

Most of the acreage is used for pasture and hay, but about 40 percent has been developed for urban use.

Because both soils are somewhat poorly drained and the Lafe soil is high in sodium content, this mapping unit is not well suited to cultivated crops. (Capability unit IIIs–1; woodland suitability group 5; wildlife suitability group 2)

Falaya Series

The Falaya series consists of somewhat poorly drained, acid soils that formed in silty alluvium. These soils have weakly developed horizons, all of silt loam. They are brownish in the upper part and light brownish gray and gray in the lower part.

Falaya soils are on the flood plains of streams and drainageways. They commonly adjoin Waverly and Cascilla soils, which they resemble in many respects. Falaya soils are better drained than Waverly soils and are more poorly drained than Cascilla soils.

Falaya soils are subject to annual floods and are not used for cultivated crops. Most areas are in forest consisting of mixed hardwoods and a few pines. A small acreage is used for pasture.

In this parish Falaya soils are mapped only as part of a complex with Waverly soils. This complex is described under the Waverly series.

Representative profile of Falaya silt loam, in a wooded area located about 4 miles north-northeast of Fred and 700 feet north of the Strangers Home Church, NE¼ sec. 15, T. 4 S., R. 1 E.

A11—0 to 1 inch, dark-brown (10YR 4/3) silt loam with few dark grayish-brown mottles; moderate, fine and medium, granular structure; friable; medium acid; abrupt, smooth boundary.

A12—1 inch to 4 inches, brown (10YR 5/3) silt loam with dark yellowish-brown (10YR 4/4) and dark grayish-brown (10YR 4/2) mottles; moderate, medium, granular structure; friable; strongly acid; gradual, smooth boundary.

A13—4 to 12 inches, pale-brown (10YR 6/3) silt loam with few brown (10YR 5/3) mottles; massive; friable; very strongly acid; gradual, wavy boundary.

C1—12 to 20 inches, light brownish-gray (2.5Y 6/2) silt loam with common, fine, faint, pale-brown (10YR 6/3) mottles and few dark yellowish-brown mottles; weak, coarse, subangular blocky structure; friable; few, soft, black and brown concretions; very strongly acid; gradual, wavy boundary.

C2—20 to 42 inches, light brownish-gray (2.5Y 6/2) silt loam with common, fine, distinct, dark-brown (7.5YR 3/2) mottles; massive (structureless) to weak, medium, subangular blocky structure; friable; few, soft, black and brown concretions; very strongly acid; gradual, smooth boundary.

C3—42 to 48 inches, light-gray (10YR 7/2) silt loam with coarse, brown (10YR 5/3) mottles; massive; friable; few brown and black concretions; very strongly acid.

The A horizon ranges from brown to dark grayish brown or dark brown in color and from 8 to 14 inches in thickness. The C horizon ranges from gray to light brownish gray. From 2 percent to 15 percent of this horizon is mottled with brown.

Fountain Series

The Fountain series consists of poorly drained, moderately slowly permeable, alkaline soils that formed in loess-like material. These soils have a surface layer of grayish-brown or brown silt loam and a subsoil of gray silty clay loam or heavy silt loam mottled with brown. The underlying material is yellowish-brown silt loam mottled with gray and brown.

Fountain soils are nearly level and occur mainly in the eastern half of the parish. They commonly adjoin Calhoun and Bonn soils. Fountain soils are similar to Calhoun soils but are not acid. They lack the high sodium content of Bonn soils.

Most areas of Fountain soils are in mixed hardwood forest. Some of the acreage has been developed for urban use, some is used for pasture, and a very small part is used for cultivated crops.

Representative profile of Fountain silt loam, in a cultivated field located 0.7 mile west-southwest of the intersection of Perkins Road and Essen Lane, sec. 42, T. 7 S., R. 1 E. Physical and chemical test data (sample No. S62La-17-42) are shown in table 8, and clay mineral data are shown in table 9.

Ap1—0 to 6 inches, grayish-brown (2.5Y 5/2) silt loam; strong, fine, granular structure; friable; many fine pores; neutral; abrupt, smooth boundary.

Ap2—6 to 10 inches, grayish-brown (10YR 5/2) and light brownish-gray (10YR 6/2) silt loam; strong, medium, platy structure; friable; fine pores; neutral; abrupt, smooth boundary.

B&A—10 to 20 inches, light brownish-gray (10YR 6/2) silty clay loam with many, coarse, faint, grayish-brown (10YR 5/2) and yellowish-brown (10YR 5/4) mottles; massive; friable; many fine pores; vertical tongues of gray silt loam; few clay films; few, soft, brown and black concretions; mildly alkaline; clear, smooth boundary.

B2tg—20 to 45 inches, gray (10YR 5/1) silty clay loam with common, medium, faint, light brownish-gray (10YR 6/2) mottles and many, coarse, prominent, yellowish-brown (10YR 5/8) mottles; medium prismatic structure breaking to moderate, medium, subangular blocky; friable to firm; many, thin, light brownish-gray clay films cover prism faces; many fine pores; few krotovinas of dark-gray silt loam; few carbonate concretions, ½ inch to 2 inches in diameter, between depths of 30 and 45 inches; mildly alkaline; gradual, wavy boundary.

C1—45 to 51 inches, yellowish-brown (10YR 5/6) silt loam with many, medium, distinct, light brownish-gray (10YR 6/2) mottles; massive (structureless) to weak, medium, prismatic structure; friable; many fine pores; few brown and black concretions; mildly alkaline; clear, smooth boundary.

C2—51 to 75 inches, light brownish-gray (10YR 6/2) silt loam with common, fine, faint, gray (10YR 5/1) and grayish-brown (10YR 5/2) mottles and few, coarse, distinct, yellowish-brown (10YR 5/6) mottles; massive; friable; mildly alkaline.

The Ap1 horizon ranges from dark grayish brown to grayish brown in color, and the Ap2, from grayish brown to gray.

The B and C horizons are dominantly gray, but 2 to 20 percent of the material is mottled with brown. The B horizon ranges from silty clay loam to heavy silt loam in texture. The reaction is strongly acid to moderately alkaline to a depth of 18 inches and mildly alkaline to moderately alkaline below that depth. Lime concretions do not occur in all areas.

Fountain silt loam (Fn).—This level or nearly level soil is in small areas on the Perkins Road Farm of the Louisiana Agricultural Experiment Station.

The surface layer is grayish-brown, friable silt loam about 10 inches thick. The subsoil is gray, friable silty clay loam mottled with olive or brown.

Good tilth is somewhat difficult to maintain because the surface tends to crust. The content of nitrogen, phosphorus, and potassium is low. The reaction is strongly acid to mildly alkaline in the surface layer and neutral to moderately alkaline in the subsoil.

This soil generally is wet in winter and spring and somewhat dry in summer and fall. Runoff is slow, and permeability is moderately slow. A few areas are subject to occasional floods. Drainage is needed if cultivated crops and pasture plants are grown.

Most of the locally grown crops can be grown on this soil. (Capability unit IIIw–3; woodland suitability group 5; wildlife suitability group 1)

Fountain and Bonn silt loams (Fo).—These level or nearly level soils are in many small areas and in depressions in the central part of the parish. Some delineations contain Fountain silt loam, some contain Bonn silt loam, and some contain both soils.

The Fountain soil has a grayish-brown, friable to firm surface layer about 6 to 10 inches thick. The subsoil is gray, friable silty clay loam mottled with brown.

The Bonn soil has a grayish-brown or gray, friable to firm surface layer. The subsoil, to a depth of 36 inches, is gray, firm to friable silt loam or silty clay loam with dark-colored clay films. The underlying material is gray, friable silt loam. The subsoil has a high sodium content and generally remains dry even in wet periods.

Included in the areas mapped are small areas of Calhoun and Frost soils.

Both the Fountain soil and the Bonn soil in this mapping unit are strongly acid to moderately alkaline in the surface layer and neutral to moderately alkaline below a depth of 18 inches.

These soils are low in nitrogen, phosphorus, and potassium. Runoff is slow, and permeability also is slow. These soils generally are wet in winter and spring. The Bonn soil does not hold enough moisture for cultivated crops and pasture plants during the drier periods in summer and fall. Also, it is subject to occasional floods.

Most of the acreage is used for pasture and hay, but about 25 percent is in mixed hardwood forest, and 14 percent has been developed for urban use.

These soils are not well suited to cultivated crops, because they are wet. The root zone of the Bonn soil is restricted by the sodium, and the surface tends to crust. (Capability unit IIIw–3; woodland suitability group 5; wildlife suitability group 1)

Fred Series

The Fred series consists of moderately well drained, moderately slowly permeable, slightly acid to alkaline soils that formed in loesslike material. These soils have a surface layer of dark grayish-brown to brown silt loam with brown and gray mottles in the lower part. The subsoil is dark yellowish-brown and brown silty clay loam or heavy silt loam. The underlying material is mottled yellowish-brown, grayish-brown, or olive-brown silt loam.

Fred soils are nearly level and occur in small areas in the central part of the parish. They commonly adjoin Deerford and Verdun soils, both of which have horizons high in sodium content. Fred soils are similar to Fountain and Essen soils in many respects but are better drained.

Most areas of Fred soils have been developed for urban use. The remaining acreage is mostly in pasture or mixed hardwood forest. A small acreage is cultivated.

Representative profile of Fred silt loam, in a cultivated field located in the central part of sec. 41, T. 7 S., R. 1 E. Physical and chemical test data (sample No. S62La–17–41) are shown in table 8, and clay mineral data are shown in table 9.

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) silt loam; moderate, fine and medium, granular structure; common fine pores; slightly acid; clear, smooth boundary.

A2—6 to 9 inches, brown (10YR 5/3) silt loam with common, fine and medium, faint, grayish-brown (10YR 5/2), pale-brown (10YR 6/3), and gray (10YR 6/1) mottles; strong, medium and thick, platy structure; firm; few fine pores; few, small, black and brown concretions; slightly acid; clear, wavy boundary.

A&B—9 to 10 inches, dark yellowish-brown (10YR 4/4) silty clay loam; about 20 percent biscuit-shaped peds coated with dark-gray clay films and surrounded by brown silt loam mottled with gray; few fine pores; neutral; clear, wavy boundary.

B21t—10 to 18 inches, dark yellowish-brown (10YR 4/4) silty clay loam; moderate, medium, subangular blocky and prismatic structure; firm; patchy, dark grayish-brown clay films on some vertical and horizontal ped faces and in pores; many fine pores; common krotovinas of dark grayish-brown and brown silt loam; moderately alkaline; gradual, wavy boundary.

B22tca—18 to 26 inches, brown (10YR 5/3) silty clay loam with common, distinct, yellowish-brown (10YR 5/6) mottles; strong, medium and coarse, prismatic structure; friable; common thin clay films on vertical and horizontal faces of most peds; common root channels filled with brown silt loam; common, soft and hard, black and brown concretions; few hard concretions of calcium carbonate; mildly alkaline; gradual, smooth boundary.

B3ca—26 to 32 inches, brown (10YR 5/3) heavy silt loam with common, distinct, yellowish-brown (10YR 5/6) mottles; moderate, medium and coarse, prismatic structure; friable; few very thin clay films on some vertical and horizontal faces of peds; common, soft and hard, brown and black concretions; few carbonate concretions 1 inch to 2 inches in diameter; mildly alkaline; gradual, wavy boundary.

C1—32 to 51 inches, dark grayish-brown (2.5Y 4/2) silt loam with common, fine, prominent yellowish-brown (10YR 5/6) mottles; massive; friable; grayish-brown silt loam in some root channels; many fine pores; few, soft, black concretions; mildly alkaline.

C2—51 to 75 inches, light olive-brown (2.5Y 5/6) silt loam with common, fine, faint, grayish-brown (2.5Y 5/2) and yellowish-brown (10YR 5/8) mottles; massive; friable; common, soft, black concretions; mildly alkaline.

The Ap horizon ranges from dark grayish brown to brown in color and from 5 to 10 inches in thickness. The A2 horizon, where present, ranges up to 4 inches in thickness. The B2t horizon ranges from dark brown to yellowish brown; dark-colored clay films cover the peds in most profiles. The texture of the B horizon ranges from silty clay loam to heavy silt loam. The reaction is medium acid to mildly alkaline to a depth of 10 inches and neutral to moderately alkaline below that depth.

Fred silt loam (Fr).—This level or nearly level soil is in small areas in the central part of the parish.

The surface layer is dark grayish-brown, friable silt loam. The subsoil, to a depth of 30 inches, is yellowish-brown, friable silty clay loam with a few dark-colored ped coatings. The underlying material is yellowish-brown, friable silt loam.

Included in the areas mapped are small areas of Verdun and Deerford soils.

This Fred soil is easy to work and to keep in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction is medium acid to moderately alkaline in the surface layer and neutral to moderately alkaline in the subsoil and substratum.

Runoff is slow, and permeability is moderately slow. A few areas are subject to occasional floods of short duration. In most years the supply of moisture is adequate for cultivated crops and pasture plants.

About 65 percent of the acreage has been developed for urban use. The rest is used chiefly for pasture and hay and partly for cultivated crops.

This soil is well suited to most crops commonly grown in the parish. (Capability unit I–2; woodland suitability group 5; wildlife suitability group 2)

Fred-Deerford silt loams (Fs).—This mapping unit is about 55 percent moderately well drained Fred silt loam and 45 percent somewhat poorly drained Deerford silt loam.

The Fred soil has a dark grayish-brown, friable surface layer. The subsoil, to a depth of 30 inches, is yellowish-brown, friable silty clay loam with a few dark-colored ped coatings. The reaction is medium acid to moderately alkaline in the surface layer and neutral to moderately alkaline in the subsoil.

The Deerford soil has a brown or grayish-brown, friable surface layer. The subsoil is grayish-brown or yellowish-brown, firm silty clay loam with dark-gray clay films. The lower subsoil has a high content of sodium. The reaction is medium acid to strongly acid to a depth of about 18 inches and neutral to moderately alkaline below that depth.

Included in the areas mapped are small areas of Bonn silt loam and Fountain silt loam.

Fred-Deerford silt loams are low in nitrogen, phosphorus, and potassium. Runoff is slow. Permeability is moderately slow in the Fred soil and very slow in the Deerford soil. A few areas are subject to occasional floods of short duration. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall.

About 50 percent of the acreage is in mixed hardwood forest and pasture, 45 percent has been developed for urban use, and a small acreage is cultivated.

These soils are fairly well suited to most crops commonly grown in the parish. (Capability unit IIw–4; woodland suitability group 5; wildlife suitability group 2)

Freeland Series

The Freeland series consists of moderately well drained, slowly permeable, acid soils that formed in silty alluvium. These soils have a surface layer of dark-brown to brown very fine sandy loam and an upper subsoil of brown or yellowish-red silty clay loam mottled with shades of brown. The lower part of the subsoil is a somewhat brittle fragipan of mottled pale-brown and yellowish-brown clay loam, silt loam, or sandy clay loam. The underlying material is yellowish-brown sandy clay loam.

Freeland soils are in many small areas on natural levees of the Amite River, along the eastern border of the parish. They are level or gently sloping in most areas, but are moderately sloping in a few areas on escarpments. These soils commonly adjoin Dexter, Olivier, and Loring soils. Freeland soils closely resemble Olivier and Loring soils but contain more sand. They are more poorly drained than Dexter soils, which do not have a fragipan.

Most areas of Freeland soils are in forest consisting of pines and some hardwoods. Areas that have been cleared are used mostly for pasture but partly for cultivated crops.

Representative profile of Freeland very fine sandy loam, in a pasture located 300 feet east of Greenwell Springs Road and one-fourth of a mile south of the parish boundary, in the north-central part of sec. 58, T. 4 S., R. 3 E.

Ap1—0 to 2 inches, dark-brown (10YR 4/3) very fine sandy loam; moderate, medium and fine, granular structure; friable; numerous, soft, brown concretions; medium acid; clear, smooth boundary.

Ap2—2 to 4 inches, dark yellowish-brown (10YR 4/4) very fine sandy loam; massive; friable; common dark-brown and yellowish-brown worm casts; few fine pores; common, soft, black and brown concretions; medium acid; clear, smooth boundary.

A2—4 to 8 inches, dark-brown (7.5YR 4/4) very fine sandy loam with common, fine, faint, strong-brown (7.5YR 5/6) mottles; massive (structureless) to weak, medium, subangular blocky structure; friable; few worm casts; common large pores; strongly acid; clear, smooth boundary.

B1—8 to 12 inches, strong-brown (7.5YR 5/6) silt loam or loam with few, distinct, yellowish-brown (10YR 5/6) mottles and few, fine, faint, pale-brown (10YR 6/3) and brownish-yellow (10YR 6/6) mottles; weak, medium, subangular blocky structure; friable; common pores; few, soft, brown and black concretions; strongly acid; clear, smooth boundary.

B21t—12 to 20 inches, dark-brown (7.5YR 4/4) silty clay loam with common, fine, faint, strong-brown (7.5YR 5/8) mottles; moderate, medium, subangular blocky structure; friable; few clay films in pores and root channels; common large pores; strongly acid; clear, smooth boundary.

B22t—20 to 24 inches, yellowish-brown (10YR 5/6) clay loam with few, fine, faint, pale-brown (10YR 6/3) mottles; moderate, medium, subangular blocky structure; friable; few patchy clay films; few large and small pores; few, soft, brown and black concretions; common black manganese splotches on some peds; strongly acid; clear, smooth boundary.

Bx1—24 to 32 inches, mottled pale-brown (10YR 6/3) and yellowish-brown (10YR 5/8) clay loam or heavy silt loam; moderate, medium, subangular blocky structure; firm; common patchy clay films on peds; few large pores; common, soft, brown and black concretions; strongly acid; clear, smooth boundary.

Bx2—32 to 49 inches, yellowish-brown (10YR 5/8) sandy clay loam with light yellowish-brown (10YR 6/4) mottles; moderate, medium, subangular blocky structure; firm; patchy clay films on a few peds; common vertical veins or streaks of pale-brown and light brownish-gray silt; few, soft, brown and black concretions; strongly acid.

The Ap1 horizon, where present, ranges from 2 to 4 inches in thickness. The entire Ap horizon ranges from dark brown to brown in color and from 4 to 8 inches in thickness. The B2t horizon ranges from strong brown to reddish brown or yellowish red in color and from 10 to 20 inches in thickness. The Bx horizon is 18 inches to several feet thick. The reaction is medium acid to strongly acid in the surface layer and strongly acid to very strongly acid in the subsoil and fragipan.

Freeland very fine sandy loam, 0 to 1 percent slopes (FvA).—This soil is in small areas on natural levees of the Amite River and its major tributaries, along the eastern border of the parish.

The surface layer is a brown, friable very fine sandy loam. The subsoil, to a depth of 24 inches, is brown or yellowish-red, friable silty clay loam mottled with shades of brown. The lower part is a firm, somewhat brittle fragipan of brown clay loam or sandy clay loam. The underlying material is yellowish-brown sandy clay loam. The reaction is medium acid to strongly acid in the surface layer and strongly acid to very strongly acid in the subsoil and fragipan.

Included in the areas mapped are small areas of Olivier, Loring, and Dexter soils.

This Freeland soil is fairly easy to work and to keep in good tilth. It is low in nitrogen, phosphorus, and potassium. Lime generally is needed.

Runoff is slow. Permeability is moderate above the fragipan and very slow within it. A few areas are subject to occasional floods of short duration. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall.

About 70 percent of the acreage is in forest containing pines and some hardwoods, 25 percent is in pasture, and a small acreage is cultivated.

This soil is suited to most crops commonly grown in the parish. (Capability unit I–2; woodland suitability group 2; wildlife suitability group 3)

Freeland very fine sandy loam, 1 to 3 percent slopes (FvB).—This soil is in small areas along the eastern border of the parish.

The surface layer is brown, friable very fine sandy loam about 6 to 7 inches thick. The subsoil, to a depth of 20 inches, is brown or yellowish-red, friable silty clay loam mottled with shades of brown. The lower part is a firm, somewhat brittle fragipan of brown or mottled silt loam, silty clay loam, or clay loam. The underlying material is yellowish-brown sandy clay loam.

Included in the areas mapped are small areas of Loring and Dexter soils and a few small areas on escarpments that have a slope range of 3 to 8 percent.

This Freeland soil generally is friable and is easy to work and to keep in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction ranges from medium acid to very strongly acid. Lime generally is needed.

Permeability is moderate above the fragipan and slow within it. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Erosion control is needed if clean-tilled crops are grown.

Most of the acreage is in pine forest, about 25 percent is in pasture, and a small part is cultivated.

This soil is well suited to most of the crops commonly grown in the parish. (Capability unit IIe-1; woodland suitability group 2; wildlife suitability group 3)

Frost Series

The Frost series consists of poorly drained, slowly permeable, acid soils that formed in loesslike material. These soils have a surface layer of grayish-brown or dark grayish-brown silt loam and a subsoil of light brownish-gray or gray silty clay loam mottled with shades of gray and brown.

Frost soils are on broad flats and in narrow depressions on broad terraces. They commonly adjoin Calhoun, Fountain, Bonn, Zachary, and Jeanerette soils. Frost soils are similar to Calhoun and Zachary soils in many respects but have dark-colored ped coatings. Frost soils are lighter colored and more acid than Jeanerette soils. They are also more acid than Fountain and Bonn soils, and they do not have the sodium content that is characteristic of Bonn soils.

Most areas of Frost soils are in forest consisting of mixed hardwoods and a few pines. Areas that have been cleared are used mostly for pasture but partly for cultivated crops.

Representative profile of Frost silt loam, in a pasture located 0.6 mile southwest of the Red and White Store and 0.2 mile west of Blackwater Road, in the southern part of sec. 35, T. 5 S., R. 1 E. Physical and chemical test data (sample No. S62La–17–45) are shown in table 8.

A1—0 to 3 inches, dark grayish-brown (10YR 4/2) silt loam; strong, medium and fine, granular structure; friable; brown films in some root channels; medium acid; clear, smooth boundary.

A2—3 to 11 inches, dark grayish-brown (10YR 4/2) silt loam with grayish-brown mottles; massive (structureless) breaking to rough, prismlike clods; firm in place but easily crushed; brown films in many root channels; medium acid; gradual, irregular boundary.

B&A—11 to 20 inches, dark-gray (10YR 4/1) heavy silt loam with common, fine, distinct, light brownish-gray (10YR 6/2), dark-brown (10YR 4/3), and yellowish-brown (10YR 5/6) mottles; weak, medium, prismatic structure; friable; many fine and coarse pores; thick tongues of light brownish-gray silt loam; a few dark-gray clay films in root channels; medium acid; gradual, wavy boundary.

B21tg—20 to 32 inches, finely mottled gray (5Y 5/1), dark-gray (10YR 4/1), light brownish-gray (10YR 6/2), and yellowish-brown (10YR 5/8) silty clay loam; moderate, medium, subangular blocky structure adhering as prismatic; firm; patchy, dark-gray clay films on ped faces and in pores; many fine pores; several vertical tongues of dark-gray silt loam; medium acid; gradual, wavy boundary.

B22tg—32 to 38 inches, light brownish-gray (10YR 6/2) silty clay loam with common, fine, distinct, yellowish-brown (10YR 5/6) mottles and many, fine, faint, gray (10YR 6/1) mottles; weak, medium, subangular blocky structure adhering as strong, prismatic; firm; numerous dark gray and very dark gray clay films on prisms and as veins and streaks in prisms; common thick tongues of dark-gray silt loam; medium acid; gradual, wavy boundary.

B23tg—38 to 52 inches, light brownish-gray (2.5Y 6/2) silty clay loam with common, fine, distinct, light olive-brown (2.5Y 5/4) mottles; moderate, coarse, prismatic structure; firm; thin, patchy clay films, dark gray on peds and very dark gray in pores; vertical tongues of dark-gray silt loam; few, soft, black concretions; medium acid; gradual, irregular boundary.

B3g—52 to 68 inches, light brownish-gray (2.5Y 6/2) silty clay loam with common, medium and coarse, yellowish-brown (10YR 5/8) mottles; weak, coarse, prismatic structure; friable; few tongues of dark-gray silt loam; mildly alkaline.

Cg—68 to 90 inches, light brownish-gray (2.5Y 6/2) silty clay loam with common, coarse, yellowish-brown (10YR 5/8) mottles; massive; friable; few, soft, black concretions; mildly alkaline.

The A horizon ranges from grayish brown to dark grayish brown in color and from 8 to 15 inches in thickness. It is dark gray or very dark gray to a depth of 2 to 5 inches in some areas. The B2t horizon ranges from gray mottled with brown to light brownish gray mottled with shades of brown. In structure it ranges from dominantly blocky to dominantly prismatic. The reaction is slightly acid to very strongly acid to a depth of 30 inches and medium acid to moderately alkaline below that depth.

Frost silt loam (Fw).—This level or nearly level soil is on broad flats and in depressions along drainageways throughout the northern half and the southeastern part of the parish.

The surface layer is dark grayish-brown or grayish-brown, friable silt loam about 6 to 10 inches thick. The subsoil is mottled grayish-brown, dark-gray, and gray silty clay loam that has dark-colored clay films and tongues of dark-gray and gray silt loam and many pores filled with dark-gray material. The mottles form a salt-and-pepper pattern.

Included in the areas mapped are small areas of Zachary, Calhoun, and Jeanerette soils. Also included are areas that are moderately alkaline below a depth of 30 inches, and small areas that have a loamy surface layer and a considerable amount of fine sand in the substratum.

This Frost soil is low in nitrogen, phosphorus, and potassium. It is very strongly acid to medium acid to a depth of about 30 inches and medium acid to mildly alkaline below that depth. Lime generally is needed.

This soil generally is wet in winter and spring and somewhat dry in summer and fall. Runoff is slow, and permeability also is slow. Many areas are flooded occasionally, and narrow areas along natural drainageways are flooded frequently. Drainage and possibly flood control are needed if cultivated crops and pasture plants are grown.

Two-thirds of the acreage is in mixed hardwood forest and most of the rest is used for pasture and hay. Only a few small areas are cultivated.

This soil is suited to most pasture crops commonly grown in the parish, but it is not so well suited to cultivated crops, because of the overflow hazard and periods of wetness and dryness. (Capability unit IIIw-4; woodland suitability group 1; wildlife suitability group 1)

Jeanerette Series

The Jeanerette series consists of poorly drained, moderately slowly permeable, dark-colored, alkaline soils that formed in loesslike material. These soils have a surface layer of dark-gray to very dark brown or black silt loam and a subsoil of silty clay loam that is black to dark gray in the upper part and light olive brown in the lower part. The underlying material is light olive-brown silt loam mottled with gray and brown.

Jeanerette soils occur on broad flats and in depressions, mainly in the south-central part of the parish. They commonly adjoin Calhoun, Zachary, Frost, and Jeanerette soils, light-colored variant. Jeanerette soils have a darker colored surface layer than Jeanerette soils, light-colored variant. Jeanerette soils are darker colored and less acid than Calhoun, Zachary, and Frost soils.

About half the acreage of Jeanerette soils has been developed for urban use. A small acreage is used for cultivated crops and pasture plants, and the rest is dominantly in mixed hardwood forest.

Representative profile of Jeanerette silt loam, in a wooded area located 1.9 miles west-northwest of the traffic circle at the intersection of U.S. Highway No. 190 and No. 61, in sec. 79, T.7 S., R. 1 E.

A11—0 to 3 inches, very dark grayish-brown (10YR 3/2) silt loam; strong, medium and fine, granular structure; friable; many fine roots and fine pores; slightly acid; abrupt, smooth boundary.

A12—3 to 5 inches, very dark gray (10YR 3/1) silt loam; moderate to strong, fine, granular structure; friable; many fine pores; neutral; gradual, smooth boundary.

B21t—5 to 10 inches, very dark gray (10YR 3/1) silty clay loam; strong, medium and coarse, prismatic and subangular blocky structure; slightly plastic; few, patchy, black clay films on ped faces; few fine pores; mildly alkaline; diffuse, irregular boundary.

B22t—10 to 20 inches, dark grayish-brown (2.5Y 4/2) and light olive-brown (2.5Y 5/4) silty clay loam with dark-gray (10YR 4/1) and black (10YR 2/1) mottles; slightly plastic; almost continuous, thin clay films on ped faces; mildly alkaline; abrupt, irregular boundary.

B23t—20 to 30 inches, light olive-brown (2.5Y 5/4) silty clay loam with common, fine, faint, grayish-brown (2.5Y 5/2) mottles and common, fine, prominent mottles or weak concretions of yellowish brown (10YR 5/8); common fine pore fillings or mottles of dark gray; moderate, coarse, prismatic structure; slightly plastic; numerous dark gray and very dark gray clay films on ped faces; few thin tongues of dark-gray silt; many very fine pores; 5 to 10 percent hard silica-lime concretions, ⅛ inch to 1½ inches in diameter; mildly alkaline; diffuse, wavy boundary.

B3t—30 to 48 inches, light olive-brown (2.5Y 5/4) silty clay loam or silt loam with many, fine, faint, grayish-brown (2.5Y 5/2) mottles; many pore fillings of dark gray and very dark gray; weak, coarse, prismatic structure with patchy, very dark gray clay films on some ped faces; few tongues of dark-gray silt loam; numerous very fine pores; few, hard, brown and black concretions; mildly alkaline.

The A horizon ranges from 5 to 16 inches in thickness and from very dark brown or very dark gray to black in color. Lime concretions generally do not occur in the uppermost 16 inches. The reaction ranges from medium acid to moderately alkaline in the uppermost 12 to 14 inches.

The B21t horizon ranges from dark gray to black in color and from 5 to 10 inches in thickness. The B22t horizon ranges from silt loam to silty clay loam in texture, from 10 to 24 inches in thickness, and from light olive brown to pale olive or light yellowish brown in color. Light brownish-gray (2.5Y 6/2) mottles are common throughout the B23t horizon. Lime concretions generally occur at a depth of 16 to 60 inches. The reaction ranges from mildly alkaline to moderately alkaline.

Jeanerette silt loam (Je).—This soil is on broad flats and in shallow concave areas, in a strip that extends southeastward from the west-central part of the parish.

The surface layer is dark-gray, very dark brown, or black, friable silt loam and is 5 to 12 inches thick. The subsoil of silty clay loam is dark-gray in the upper part and light olive gray in the lower part. The underlying material is light olive-gray silt loam or silty clay loam.

Included in the areas mapped are small areas of Jeanerette soils, light-colored variant, and of Fred and Frost soils.

Jeanerette silt loam has good structure and is easy to keep in good tilth. It is low in nitrogen and medium in phosphorus and potassium. The reaction ranges from medium acid to moderately alkaline in the surface layer and from neutral to moderately alkaline in the subsoil. A few lime concretions are normally present in the subsoil.

Runoff is slow, and permeability is moderately slow. In most years the moisture supply is adequate for cultivated crops and pasture plants. Some areas are subject to occasional floods. Drainage is needed if this soil is used for cultivated crops and pasture.

About two-thirds of the acreage has been developed for urban use, 30 percent is in mixed hardwood forest, and a small acreage is in pasture and cultivated crops.

This soil is well suited to most of the crops commonly grown in the parish. (Capability unit IIw-1; woodland suitability group 5; wildlife suitability group 2)

Jeanerette-Frost silt loams (Jt).—About 60 percent of this mapping unit consists of poorly drained Jeanerette soil, and 30 percent consists of poorly drained Frost soil. These soils are on broad flats and in depressions, mainly in the south-central part of the parish.

The surface layer of the Jeanerette soil is dark gray, very dark gray, or black, friable silt loam that is 5 to 12 inches thick. The subsoil is dark-gray or olive-brown silty clay loam.

The Frost soil has a grayish-brown surface layer about 6 to 10 inches thick. The subsoil is light brownish-gray or gray silty clay loam that is mottled with shades of gray and brown and has coatings of dark-gray clay.

Included in the areas mapped are small areas of Jeanerette soils, acid variant; of Jeanerette soils, light-colored variant, and of Fred, Verdun, and Deerford soils.

Jeanerette-Frost silt loams are low to moderate in nitrogen, phosphorus, and potassium. The reaction ranges from slightly acid to moderately alkaline in the Jeanerette soil and from slightly acid to very strongly acid in the Frost soil.

The Jeanerette soil has slow runoff and moderately slow permeability. The Frost soil has very slow runoff and slow permeability. Some areas of both soils are subject to occasional floods. In most years the Jeanerette soil has an adequate supply of moisture. The Frost soil generally is wet in winter and spring and is sometimes dry in summer and fall. These soils need to be drained if used for cultivated crops and pasture.

About 70 percent of the acreage of Jeanerette-Frost silt loams is in mixed hardwood forest, nearly 27 percent has been developed for urban use, and a small percentage is in pasture.

These soils are suited to most of the crops commonly grown in the parish. (Capability unit IIIw-4; woodland suitability group 5 for the Jeanerette soil and 1 for the Frost soil; both soils are in wildlife suitability group 2)

Jeanerette Series, Light-Colored Variant

The Jeanerette series, light-colored variant, consists of poorly drained, slowly permeable, alkaline soils that formed in loesslike material. These soils are similar to normal Jeanerette soils in many respects but are outside the series range, principally because of their light-colored surface layer. The surface layer of these soils is grayish-brown or dark grayish-brown silt loam in the upper part and very dark gray or black silt loam in the lower part. The subsoil is very dark gray silty clay loam in the upper part and light olive-brown silty clay loam mottled with brown in the lower part. The underlying material is a light olive-brown silt loam.

Jeanerette soils, light-colored variant, are level or depressional soils in the southern and northeastern parts of the parish. They commonly adjoin Calhoun, Zachary, Frost, and normal Jeanerette soils. Jeanerette soils, light-colored variant, are less acid than Calhoun, Zachary, and Frost soils and contain darker colored horizons in the surface layer and subsoil.

About half the acreage is in mixed hardwood forest, 40 percent is used for pasture, and the rest has been developed for urban use.

Representative profile of Jeanerette silt loam, light-colored variant, located in the central part of sec. 41, T. 7 S., R. 1 E.

A11—0 to 5 inches, dark grayish-brown (10YR 4/2) silt loam with common, fine, distinct mottles of grayish brown (10YR 5/2) and light brownish gray (10YR 6/2); moderate, medium and fine, granular structure; friable; common brown and strong-brown coatings in root channels; common fine pores; slightly acid; clear, smooth boundary.

A12—5 to 12 inches, dark grayish-brown (10YR 4/2) silt loam; weak, medium to coarse, prismatic structure; friable; common root channel coatings of yellowish brown; common fine and coarse pores; mildly alkaline; clear, wavy boundary.

B1—12 to 18 inches, very dark gray (10YR 3/1) silty clay loam; weak, medium, prismatic and subangular blocky structure; friable; common fine pores; common root channels filled with vertical veins of dark grayish-brown silt loam; common, soft and hard, brown and black concretions; mildly alkaline; gradual, wavy boundary.

B21t—18 to 22 inches, light olive-brown (2.5Y 5/4) silty clay loam with common mottles and fine veins of very dark grayish brown (2.5Y 3/2); strong prismatic and angular blocky structure; thin, patchy, very dark grayish-brown clay films; friable; common fine pores; few, soft and hard, black and brown concretions; common vertical veins of very dark grayish-brown silt loam; moderately alkaline; gradual, irregular boundary.

B22t—22 to 26 inches, light olive-brown (2.5Y 5/4) silty clay loam; strong, medium and fine, prismatic and angular blocky structure; friable; thin clay films of dark grayish brown; common, medium and fine pores; common, soft and hard, black concretions; moderately alkaline; gradual, irregular boundary.

B31ca—26 to 34 inches, light olive-brown (2.5Y 5/4) light silty clay loam; strong, medium, prismatic structure and moderate, medium, angular blocky structure; thin olive-brown clay films on peds; friable; some root channels filled with olive-brown clay; common fine pores; common, soft and hard, black and brown concretions; common hard silica-lime concretions; moderately alkaline; gradual, irregular boundary.

B32ca—34 to 46 inches, light olive-brown (2.5Y 5/4) heavy silt loam with common fine mottles of light olive brown (2.5Y 5/6) and grayish brown (2.5Y 5/2); moderate, medium and coarse, prismatic structure; friable; most prism faces coated with thin clay films of olive brown; few root channels filled with very dark grayish-brown clay; common fine pores; few, soft and hard, black and brown concretions; few hard silica-lime concretions; moderately alkaline; gradual, wavy boundary.

C1—46 to 55 inches, light olive-brown (2.5Y 5/6) silt loam; massive; friable; common fine pores; few large pores coated with very dark grayish-brown clay; common vertical veins and channels filled with grayish-brown and light olive-brown silt loam; common, soft and hard, black and brown concretions; moderately alkaline.

C2—55 to 90 inches, light olive-brown (2.5Y 5/6) silt loam with common coarse mottles or vertical veins of grayish-brown silt loam; massive; friable; 7 to 10 percent black and brown concretions; moderately alkaline.

The A11 horizon ranges from dark grayish brown to grayish brown in color and from 5 to 8 inches in thickness. The A12 horizon ranges from very dark gray to grayish brown in color and 4 to 8 inches in thickness. The reaction of the A horizon ranges from medium acid to mildly alkaline. The B1 horizon ranges from very dark gray to black in color, and the B2 horizon from light olive brown with brown mottles to very dark gray.

Jeanerette silt loam, light-colored variant (Jr).—This soil is on broad flats and along drainageways throughout the parish.

The light-colored surface layer is the result of recent deposition. The subsoil, to a depth of 46 inches, is friable silty clay loam that is very dark gray in the upper part and light olive brown in the lower part. The lower part is mottled with grayish brown and has dark-colored clay films. The underlying material is light olive-brown silt loam. Soft and hard, brown and black concretions commonly occur in all horizons.

This soil is easy to work but tends to crust. It is low in nitrogen and moderate in phosphorus and potassium. The reaction ranges from medium acid to mildly alkaline in the surface layer and from mildly alkaline to moderately alkaline in the subsoil and substratum. A few lime concretions occur in most places below a depth of about 20 inches.

This soil generally is wet in winter and spring. Some areas are subject to occasional flooding, and areas along drainageways are subject to frequent flooding. Runoff is slow, and permeability is moderately slow. Drainage and possibly flood control are needed if cultivated crops and pasture plants are grown. In most years the supply of moisture is adequate for crops.

About half the acreage is in mixed hardwood forest, a small acreage is cultivated, and the rest is chiefly in pasture and hay.

This soil is suited to most of the locally grown crops. (Capability unit IIw-1; woodland suitability group 5; wildlife suitability group 1)

Jeanerette, light-colored variant-Frost silt loams (Jv).—These are poorly drained soils in shallow depressions and natural drainageways throughout the parish.

The surface layer of the Jeanerette soil is grayish brown in the upper part and very dark gray in the lower part. The subsoil, which extends to a depth of about 30 inches, is friable silty clay loam that is very dark gray in the upper part and light olive brown mottled with grayish brown in the lower part. The underlying material is light olive-brown, friable silt loam mottled with grayish brown.

The Frost soil has a grayish-brown, friable surface layer. The subsoil, to a depth of 36 inches, is gray, slightly plastic silty clay loam that is mottled with brown and with dark-colored clay films and is tongued with dark-colored silt loam. The underlying material is grayish-brown or brown, friable silt loam or silty clay loam and is mottled with gray.

Included in the areas mapped are small areas of Calhoun, Zachary, and Fountain soils.

Both the Jeanerette soil and the Frost soil are low in nitrogen and low to moderate in phosphorus and potassium. The surface layer of the Jeanerette soil is medium acid to mildly alkaline. The subsoil is moderately alkaline and normally contains lime concretions. The surface layer and upper part of the subsoil of the Frost soil are slightly acid to very strongly acid. The lower part of the subsoil and the substratum are strongly acid to mildly alkaline.

These soils generally are wet in winter and spring. Runoff is slow, and permeability is slow. Some areas are subject to occasional floods. Drainage and possibly flood control are needed if cultivated crops and pasture plants are grown. The Jeanerette soil has an adequate supply of moisture in most years, but the Frost soil is somewhat dry in summer and fall.

About 50 percent of the acreage is in mixed hardwood forest, 40 percent is in pasture and hay, and 10 percent has been developed for urban use.

These soils are suited to most of the locally grown crops. (Capability unit IIIw-4; woodland suitability group 5 for the Jeanerette soil and 1 for the Frost soil; both soils are in wildlife suitability group 1)

Jeanerette Series, Acid Variant

The Jeanerette series, acid variant, consists of poorly drained, slowly permeable, acid soils that formed in loesslike material. These soils are similar to the normal Jeanerette soils in many respects but are outside the range of the series, principally because of their acid reaction throughout. These soils have a surface layer of black or dark-gray silt loam about 10 to 12 inches thick and a subsoil of gray silty clay loam mottled with black. The underlying material is gray silt loam mottled with brown and white.

Jeanerette soils, acid variant, are in shallow depressions, or potholes, ½ to 3 acres in size, and are mainly in the southern half of the parish. They commonly adjoin Frost, Calhoun, Fountain, normal Jeanerette, and light-colored Jeanerette soils. Jeanerette soils, acid variant, are similar to normal Jeanerette soils and light-colored Jeanerette soils in many respects but are more acid throughout and are more poorly drained. Acid Jeanerette soils have a darker colored surface layer and subsoil than Frost, Calhoun, and Fountain soils. Most areas are in mixed hardwood forest. Some are used for grazing, and many are used as sites for stock ponds.

Representative profile of Jeanerette silt loam, acid variant, located 1 mile northwest of Zachary and 50 yards south of Rollins Road in NE¼ of sec. 83, T. 4 S., R. 1 W.

A11—0 to 4 inches, black (10YR 2/1) silt loam; strong, fine and medium, granular structure; friable; very strongly acid; clear, smooth boundary.

A12—4 to 6 inches, black (10YR 2/1) silt loam; moderate, medium, subangular blocky structure; slightly firm; very strongly acid; diffuse, irregular boundary.

A13—6 to 12 inches, very dark gray (10YR 3/1) silt loam; moderate, medium, prismatic and subangular blocky structure; very strongly acid; diffuse, irregular boundary.

B1tg—12 to 18 inches, dark-gray (10YR 4/1) silty clay loam with many fine mottles of gray (10YR 6/1); strong, medium, prismatic structure; friable; peds, pores, and root channels coated with black clay films; very strongly acid; diffuse, irregular boundary.

B21tg—18 to 30 inches, light brownish-gray (10YR 6/2) silty clay loam; strong, coarse, prismatic structure; friable; numerous pores and root channels coated with black clay films; prisms coated with almost continuous black clay films; very strongly acid; gradual, irregular boundary.

B22tg—30 to 38 inches, light brownish-gray (10YR 6/2) silty clay loam; 5 to 10 percent fine specks or mottles of white (10YR 8/2) and about 3 percent light olive-brown mottles; moderate to strong, coarse, prismatic structure; friable; prisms coated with patchy black clay films; common tongues of dark-gray silt loam; many fine pores; a few balls of dark-gray silt loam mottled with gray and having thin coatings of black clay; very strongly acid; diffuse, irregular boundary.

B3tg—38 to 48 inches, gray silt loam; 15 percent yellowish-brown (10YR 5/6) mottles and few, white (10YR 8/2), specklike mottles; moderate, coarse, prismatic structure; friable; pores and root channels coated with black clay; prisms coated with continuous coatings of dark-gray silt loam and patchy black clay films; some root channels coated with brown oxidized material; strongly acid.

The A horizon ranges from 10 to 16 inches in thickness and from dark gray to black in color. The B horizon ranges from dark gray to brownish gray or gray in color. The reaction ranges from strongly acid to very strongly acid.

Jeanerette silt loam, acid variant (Jn).—This soil is in a few concave areas ranging from half an acre to 3 acres or more in size and is mainly in the southern and west-central parts of the parish.

The surface layer is dark-gray or black, friable silt loam and is 10 to 12 inches thick. The subsoil is gray silty clay loam. Many pores filled with black clay give it a mottled appearance. There are black clay films and dark-colored coatings of silt loam on the peds. The substratum is dominantly gray.

This soil is fairly well supplied with plant nutrients and is acid throughout. It is high in organic-matter content, and in places the surface layer is mucky silt loam. Permeability is very slow. Most areas have no outlets and, except in dry periods, are filled with water.

Most of this soil is in mixed hardwood forest. Some areas are used for grazing in summer, when the water level is low. Water-tolerant trees and grasses are the most suitable plants. (Capability unit Vw–1; woodland suitability group 4; wildlife suitability group 4)

Lafe Series

The Lafe series consists of somewhat poorly drained, very slowly permeable soils that formed in loesslike material. These soils have an acid surface layer and an alkaline subsoil. The sodium content is high in the subsoil. These soils have a surface layer of dark-brown to grayish-brown silt loam and a subsoil of yellowish-brown and grayish-brown silty clay loam or heavy silt loam mottled with gray and shades of brown. The underlying material is gray silt loam mottled with brown.

Lafe soils are nearly level soils in small areas throughout the parish. They commonly adjoin Essen, Deerford, Olivier, Bonn, Fountain, Frost, and Calhoun soils. Lafe soils are similar to Bonn soils but have a browner subsoil. They are better drained than Fountain, Frost, and Calhoun soils, all of which lack a high content of sodium. Olivier and Essen soils are not high in sodium, and Deerford soils have high sodium content only in the lower horizons.

Most areas of Lafe soils are in pasture.

Representative profile of Lafe silt loam, in a pasture located 0.2 mile west of State Route 964, SW¼ sec. 52, T. 4 S., R. 1 W.

Ap1—0 to 4 inches, dark-brown (10YR 4/3) silt loam; coarse irregular clods that break to moderate, fine and coarse, granular structure; friable; 5 percent soft and hard, yellowish-brown concretions; strongly acid; clear, smooth boundary.

Ap2—4 to 7 inches, brown (10YR 5/3) silt loam with many, fine, faint, dark-brown (10YR 4/3) mottles; massive clods that break to weak, platy structure; slightly firm; 7 percent soft and hard, dark yellowish-brown concretions; strongly acid; abrupt, smooth boundary.

A21—7 to 11 inches, dark grayish-brown (10YR 4/2) silt loam; coarse clods that break to weak, coarse, granular structure and weak, thick, platy structure; slightly firm; 5 percent worm casts of brown and very dark grayish-brown color; many fine roots and a few pores; few, small, brown concretions; very strongly acid; abrupt, smooth boundary.

A22—11 to 13 inches, grayish-brown (10YR 5/2) silt loam with common, fine, prominent, dark-brown (10YR 4/3) mottles; massive, porous clods; firm; 25 to 35 percent soft and hard, brown and black concretions; very strongly acid; abrupt, irregular boundary.

B21t—13 to 18 inches, yellowish-brown (10YR 5/4) silty clay loam with many, fine, faint, grayish-brown (10YR 5/2) mottles; moderate, medium, prismatic structure and moderate, medium, subangular blocky structure; firm; almost continuous, dark-gray clay films on ped faces; some thin tongues of grayish-brown silt loam; weak concretions of yellowish brown; 10 percent soft and hard, brown and black concretions; medium acid; gradual, smooth boundary.

B22t—18 to 24 inches, grayish-brown (10YR 5/2) silty clay loam with many, fine, faint, yellowish-brown (10YR 5/4) mottles; moderate, medium, prismatic and medium subangular blocky structure; firm; patchy, dark-gray clay films on a few peds; clay films common in some pores and root channels; 5 to 10 percent soft and hard, brown and black concretions; neutral; diffuse, irregular boundary.

B3g—24 to 36 inches, gray (10YR 5/1) heavy silt loam with common, fine, distinct, yellowish-brown (10YR 5/4) mottles; weak, coarse, prismatic structure; slightly plastic; numerous very fine pores; 5 to 10 percent soft and hard, brown and black concretions; mildly alkaline; diffuse, irregular boundary.

Cg—36 to 42 inches, gray (10YR 5/1) silt loam with common fine, distinct, yellowish-brown (10YR 5/4) mottles; massive; friable; 5 to 10 percent soft and hard, brown and black concretions; mildly alkaline.

The Ap horizon ranges from dark brown to grayish brown in color and from 4 to 12 inches in thickness. The A2 horizon generally is dark grayish brown and is 4 to 6 inches thick. The reaction is very strongly acid to moderately alkaline in the A horizon. It typically is neutral to moderately alkaline in the B horizon, except in the uppermost 5 inches, which ranges to medium acid.

Lafe silt loam (La).—This soil is in small, widely scattered areas throughout the parish. Most of it is level or nearly level, but some areas have a slope range of 1 or 2 percent.

The surface layer is grayish-brown or brown, friable to firm silt loam. The subsoil, to a depth of 24 inches, is yellowish-brown, firm silty clay loam that is mottled with gray and shades of brown and has almost continuous ped coatings of dark-gray clay, especially in the upper half. The subsoil has a high content of sodium and generally remains dry even in wet periods. The underlying material is firm to friable silt loam mottled with brown.

Included in the areas mapped are small areas of Olivier, Essen, Calhoun, and Fountain soils.

Keeping this Lafe soil in good tilth is difficult. The surface layer is strongly acid to moderately alkaline, and the subsoil normally is alkaline. The root zone is favorable to a depth of only 4 to 6 inches.

Runoff is slow, and permeability is very slow. Water stands in some areas for a few days after heavy rains. During the drier periods in summer and fall, the supply of moisture is not adequate for cultivated crops and pasture plants. Drainage is needed in some places if these crops are grown.

This soil is suitable for shallow-rooted plants that grow in cool seasons, when the moisture supply is favorable.

(Capability unit IIIs–1; woodland suitability group 5; wildlife suitability group 2)

Loamy Alluvial Land

Loamy alluvial land and Mhoon soils, overflow (Lm) is mainly on Profit Island and along the western border of the parish. It is not protected and consequently is subject to frequent flooding and to scouring and deposition. Most areas are level, but small areas have a slope of 1 or 2 percent. The supply of plant nutrients is high. The reaction is neutral to moderately alkaline.

Loamy alluvial land is made up of stratified grayish-brown, brown, and gray silt loam, silty clay loam, and sandy loam. The Mhoon soils, which are at a slightly lower elevation, are gray mottled with brown.

Included in the areas mapped are about 1,600 acres of silty and clayey material that was moved in during the construction of a barge canal and spread over the flood plain.

These areas are in mixed hardwood forest. Most are accessible only from the river. Some of the higher, drier areas are capable of producing good-quality forage. (Capability unit Vw–2; woodland suitability group 6; wildlife suitability group 4)

Loring Series[1]

The Loring series consists of moderately well drained, moderately to slowly permeable, acid soils that formed in loesslike material. These soils have a surface layer of dark-brown to brown silt loam and a subsoil of dark-brown, yellowish-brown, or yellowish-red silty clay loam. The lower part of the subsoil is a thick, somewhat brittle fragipan of brown or yellowish-brown silt loam or silty clay loam.

Loring soils are nearly level to moderately sloping, and occur dominantly along the Amite and Comite Rivers and along the northern border of the parish. They commonly adjoin Dexter, Freeland, and Memphis soils. Loring soils are somewhat similar to Dexter and Freeland soils but contain less sand. They are not so well drained as Memphis soils, which lack a fragipan. They are better drained than Olivier soils.

About half the acreage of Loring soils is used primarily for pasture, a small acreage is used for cultivated crops, and the rest has been developed for urban use or is in forest consisting of mixed hardwoods and pines.

Representative profile of Loring silt loam, in a cultivated field located in the northern part of sec. 49, T. 7 S., R. 1 E. Physical and chemical test data (sample No. S62La–17–48) are shown in table 8, and clay mineral data are shown in table 9.

Ap1—0 to 4 inches, dark-brown (10YR 4/3) silt loam; strong, fine and medium, granular structure; friable; slightly acid; clear, smooth boundary.

Ap2—4 to 6 inches, dark-brown (10YR 4/3) silt loam; massive (structureless) to weak, thick, platy structure; friable; many fine and coarse pores and roots; common worm casts of pale brown; strongly acid; clear, smooth boundary.

A2—6 to 11 inches, brown (10YR 5/3) silt loam with common, fine, faint, pale-brown (10YR 6/3) and grayish-brown (10YR 5/2) mottles and common, fine, distinct, brownish-yellow (10YR 6/6) mottles; strong, medium and thick, platy structure; firm; very strongly acid; abrupt, smooth boundary.

B2t—11 to 22 inches, dark-brown (7.5YR 4/4) silty clay loam; moderate, medium, subangular blocky structure; friable; thin, patchy, dark-brown clay films on both horizontal and vertical ped faces; dark-colored manganese coatings on a few peds; many fine and coarse pores; very strongly acid; abrupt, wavy boundary.

Bx1—22 to 36 inches, dark yellowish-brown (10YR 4/4) heavy silt loam; strong, medium and coarse, prismatic structure; firm; prisms contain a few fine pores; patchy clay films of dark yellowish brown and some black manganese coatings; common vertical veins of brown silt loam; very strongly acid; gradual, irregular boundary.

Bx2—36 to 52 inches, yellowish-brown (10YR 5/6) silt loam; moderate, coarse, prismatic structure; firm; prisms contain fine pores; few, patchy, dark yellowish-brown clay films; common vertical veins and fracture planes filled with brown and light brownish-gray silt loam; few, soft, brown concretions; very strongly acid.

The Ap horizon ranges from brown to dark brown in color and from 5 to 9 inches in thickness. The A2 horizon is as much as 6 inches thick in some places but normally is not present in eroded areas. The B2t horizon ranges from brown to yellowish red in color and, in places, is mottled with brown and yellowish brown. It ranges from 8 to 16 inches in thickness. In color, the Bx horizon ranges from brown to brown mottled with grayish brown and gray, and in texture, from silt loam to silty clay loam. The surface layer is slightly acid to very strongly acid, and the subsoil, including the fragipan, is strongly acid to very strongly acid.

Loring silt loam, 0 to 1 percent slopes (LoA).—This soil occurs mainly in the eastern part of the parish and along the northern and northeastern borders.

The surface layer is brown, friable silt loam and is about 9 inches thick. The subsoil, to a depth of 24 inches, is dark-brown or yellowish-red, friable silty clay loam. Beneath this layer is a firm, somewhat brittle fragipan of brown silt loam or silty clay loam that extends to a depth of 40 to 60 inches and is tongued with gray silt loam. A few brown and black concretions occur throughout the soil material.

Included in the areas mapped are small areas of Olivier and Memphis soils.

This Loring soil is easy to work and generally is in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction ranges from slightly acid to very strongly acid. Lime generally is needed.

Runoff is slow. Permeability is moderate above the fragipan and slow within it. The supply of moisture is adequate for cultivated crops and pasture plants, except during the dry periods that sometimes occur in summer and fall.

About 30 percent of the acreage is in forest consisting of mixed hardwoods and pines, 25 percent has been developed for urban use, a small acreage is used for cultivated crops, and the rest is mostly used for pasture and hay.

This soil is well suited to most of the crops commonly grown in the parish. (Capability unit I–2; woodland suitability group 3; wildlife suitability group 3)

Loring silt loam, 1 to 3 percent slopes (LoB).—About half of this soil is along the northern border of the parish, and about half is in the northeastern and eastern parts.

The surface layer is brown, friable silt loam about 8 inches thick. The subsoil, to a depth of 21 inches, is brown, friable silty clay loam. Beneath this layer is a firm, somewhat brittle fragipan of brown silt loam or silty clay loam that is 2 or more feet thick.

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[1] This series includes soils that were formerly called Grenada and Richland soils in this parish.

Included in the areas mapped are small areas of Memphis and Olivier soils.

This Loring soil is fairly easy to work and to keep in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction ranges from slightly acid to very strongly acid. Lime generally is needed.

Runoff is medium, and permeability is moderately slow. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Erosion is a hazard if the surface is left bare. Erosion control is needed if clean-tilled crops are grown.

About 40 percent of the acreage is in forest consisting of mixed hardwood and pines, 40 percent is in pasture, and a small acreage is in cultivated crops.

This soil is suited to most of the crops commonly grown in the parish. (Capability unit IIe-1; woodland suitability group 3; wildlife suitability group 3)

Loring silt loam, 3 to 5 percent slopes, eroded (LoC2).—This soil is in many, small, widely scattered areas throughout the parish.

The surface layer is brown, friable silt loam about 7 inches thick. The subsoil, to a depth of 17 inches, is brown, yellowish-brown, or yellowish-red, friable silty clay loam. Beneath this layer is a firm, somewhat brittle fragipan of brown silt loam or silty clay loam.

This soil is fairly easy to work and to keep in good tilth. It is low in nitrogen, phosphorus, and potassium. The reaction ranges from slightly acid to very strongly acid. Lime generally is needed.

Runoff is rapid, and permeability is moderately slow. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Erosion is a hazard if the surface is left bare. Erosion control is needed if clean-tilled crops are grown.

About 40 percent of the acreage has been developed for urban use, 30 percent is in forest consisting of mixed hardwoods and pines, 26 percent is in pasture and hay, and a small acreage is in cultivated crops. This soil is suited to most of the crops commonly grown in the parish. (Capability unit IIIe-1; woodland suitability group 3; wildlife suitability group 3)

Loring silt loam, 5 to 8 percent slopes, eroded (LoD2).—This soil occurs only in small areas on the Perkins Road Farm of the Louisiana Agricultural Experiment Station.

The surface layer is brown, friable silt loam about 5 inches thick. The subsoil, to a depth of 16 inches, is brown or yellowish-red, friable silty clay loam. Beneath this layer is a brown, somewhat brittle fragipan that is at least 2 feet thick.

This soil is low in nitrogen, phosphorus, and potassium. It ranges from strongly acid to very strongly acid. Lime generally is needed.

Runoff is rapid, and permeability is slow. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Erosion is a major hazard if the surface is left bare. Very intensive erosion control is needed if clean-tilled crops are grown.

This soil is suited to most of the crops commonly grown in the parish. (Capability unit IIIe-1; woodland suitability group 3; wildlife suitability group 3)

Made Land

Made land (Ma) consists of 2 to 4 feet of soil material, mostly gray silt loam or silty clay loam, that was removed as spoil material in the construction of drainage canals and ditches. The reaction is strongly acid to moderately alkaline. About 70 percent of the acreage has been smoothed.

Included in the areas mapped are areas that have been filled and used for building foundations, and small areas that have been stripped of 2 or 3 feet of soil material and leveled for building sites.

The smoothed areas are used for pasture, or are in mixed hardwood forest, or have been developed as building sites. The unsmoothed areas are in weeds, volunteer grasses, and small trees. (Capability unit IIIw-4; woodland suitability group 1; wildlife suitability group 1)

Memphis Series [2]

The Memphis series consists of well-drained, moderately permeable, acid soils that formed in loesslike material. These soils have a surface layer of dark-brown to grayish-brown silt loam and a subsoil of brown to dark-brown or dark reddish-brown silty clay loam. The underlying material is brown or dark-brown silt loam.

Memphis soils are nearly level to moderately sloping soils scattered throughout the parish. They commonly adjoin Loring and Olivier soils, which they resemble in many respects, but Memphis soils are better drained and do not have a fragipan.

About equal acreages of Memphis soils have been developed for urban use, are used for cultivated crops, and are in pasture. Only a small acreage is in forest.

Representative profile of Memphis silt loam, in a cultivated field located in the central part of sec. 67, T. 7 S., R. 1 W. Physical and chemical test data (sample S62La-17-54) are shown in table 8, and clay mineral data are shown in table 9.

Ap1—0 to 4 inches, dark-brown (10YR 4/3) silt loam; strong, medium and fine, granular structure; friable; common worm casts; medium acid; abrupt, smooth boundary.

Ap2—4 to 8 inches, grayish-brown (10YR 5/2) silt loam; moderate, medium, platy structure; firm; many dark-brown worm casts; few, soft, brown and black concretions; medium acid; clear, smooth boundary.

B21t—8 to 18 inches, dark-brown (7.5YR 4/4) silty clay loam; moderate, medium, subangular blocky structure; friable; common, thin, dark reddish-brown clay skins on ped faces; brown silt loam in common vertical veins, root channels, and worm casts; common large and small pores; strongly acid; gradual, wavy boundary.

B22t—18 to 36 inches, dark-brown (7.5YR 4/4) light silty clay loam; moderate, medium and coarse, subangular blocky structure and moderate, coarse, prismatic structure; friable; common dark reddish-brown clay skins on horizontal and vertical faces of peds; pale-brown and dark-brown silt loam common in root channels; many fine and coarse pores; very strongly acid; gradual, wavy boundary.

B3—36 to 48 inches, dark-brown (7.5YR 4/4) heavy silt loam; weak, medium, subangular blocky structure and weak, coarse, prismatic structure; friable; patchy, dark reddish-brown clay skins on peds and in root channels; common fine and coarse pores; yellowish-brown silt loam common in root channels; very strongly acid; gradual, wavy boundary.

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[2] This series includes soils that were formerly called Lintonia soils in this parish.

C—48 to 58 inches, dark-brown (7.5YR 4/4) silt loam; massive (structureless) to weak, subangular blocky structure; common fine pores; dark reddish-brown clay in few root channels and pores; very strongly acid.

The Ap horizon ranges from grayish brown and brown to dark brown in color and from 5 to 8 inches in thickness. The A horizon is 10 to 12 inches thick in forested areas. The B2t horizon ranges from brown and dark brown to yellowish red in color and from 8 to 30 inches in thickness. The reaction is strongly acid to medium acid in the A horizon and strongly acid and very strongly acid in the subsoil and substratum.

Memphis silt loam, 0 to 1 percent slopes (MeA).—This soil is on ridges scattered throughout the parish.

The surface layer is a brown, friable silt loam about 12 inches thick. The subsoil, to a depth of 36 inches, is brown, friable silty clay loam. The underlying material is brown, friable silt loam.

Included in the areas mapped are small areas of Dexter and Loring soils.

This Memphis soil is easy to work and fairly easy to keep in good tilth. It is low in nitrogen, phosphorus, and potash. The reaction is medium acid to very strongly acid. Lime generally is needed.

Runoff is medium, and permeability is moderate. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants.

About 37 percent of the acreage is used for cultivated crops, 36 percent is used for pasture and hay, and 27 percent has been developed for urban use.

This soil is well suited to most crops commonly grown in the parish. (Capability unit I–2; woodland suitability group 3; wildlife suitability group 3)

Memphis silt loam, 1 to 3 percent slopes (MeB).—This soil is in small areas scattered throughout the parish.

The surface layer is brown silt loam about 9 inches thick. The subsoil, to a depth of 24 inches, is dark-brown or dark reddish-brown silty clay loam. The underlying material is brown, friable silt loam.

Included in the areas mapped are small areas of Dexter soils, which are sandier than this soil, and of Loring soils, which have a fragipan.

This Memphis soil is easy to work and is fairly easy to keep in good tilth. It is low in nitrogen, phosphorus, and potash. The reaction is medium acid to very strongly acid. Lime generally is needed.

Runoff is medium, and permeability is moderate. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants. Erosion is a hazard unless a cover of vegetation is maintained, and erosion control is needed if clean-tilled crops are grown.

More than half the acreage has been developed for urban use, about 18 percent is used for cultivated crops, 12 percent is in pasture, and 10 percent is in pecan orchards. Small areas are in forest consisting of mixed hardwoods and pines.

This soil is well suited to all crops commonly grown in the parish. (Capability unit IIe–1; woodland suitability group 3; wildlife suitability group 3)

Memphis silt loam, 3 to 8 percent slopes, eroded (MeD2).—This soil is scattered throughout the parish.

The surface layer is brown, friable silt loam about 6 inches thick. In small areas where the subsoil has been brought up by plowing, the surface layer is reddish-brown silty clay loam. The subsoil, to a depth of 24 inches, is reddish-brown or dark-brown silty clay loam. The underlying material is brown, friable silt loam.

This soil is easy to work and fairly easy to keep in good tilth. It is low in nitrogen, phosphorus, and potash. The reaction is medium acid to very strongly acid. Lime generally is needed.

Runoff is moderately rapid, and permeability is moderate. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants. Erosion is a major hazard unless a cover of vegetation is maintained, and extensive erosion control is needed if clean-tilled crops are grown.

About 70 percent of the acreage has been developed for urban use, and the rest is in forest consisting of mixed hardwoods and pines.

This soil is well suited to most crops commonly grown in the parish. (Capability unit IIIe–1; woodland suitability group 3; wildlife suitability group 3)

Mhoon Series

The Mhoon series consists of poorly drained, slowly to very slowly permeable soils that formed in alluvium deposited by the Mississippi River. These soils have a surface layer of very dark grayish-brown to dark-gray silty clay loam to silty clay. Below this layer, the material is grayish-brown and gray, stratified silt loam to silty clay mottled with shades of brown.

Mhoon soils are on Profit Island and on the flood plain of the Mississippi River, along the southern and western borders of the parish. The soils in most places are level, but in some they have irregular slopes of 1 to 3 percent. These soils commonly adjoin Commerce and Sharkey soils. Mhoon soils closely resemble Commerce soils but are more poorly drained. They are less clayey than Sharkey soils.

Areas of Mhoon soils that are not protected by levees are subject to annual floods. Most of the protected areas are used for cultivated crops and pasture, and the rest of the acreage is in mixed hardwood forest.

Representative profile of Mhoon silty clay loam, in a pasture located 1½ miles southeast of Burtville, in the east-central part of the SW¼ sec. 52, T. 8 S., R. 1 E.

Ap1—0 to 3 inches, very dark grayish-brown (10YR 3/2) silty clay loam; weak, medium, subangular blocky structure; slightly plastic; slighty acid; clear, smooth boundary.

Ap2—3 to 5 inches, very dark grayish-brown (10YR 3/2) silty clay loam with common, fine, faint, dark grayish-brown (10YR 4/2) and very dark gray (10YR 3/1) mottles; weak, medium, subangular blocky structure; slightly plastic; many brown coatings in root channels; medium acid; clear, smooth boundary.

A&C—5 to 16 inches, grayish-brown (10YR 5/2) silty clay loam with common, fine, faint, dark-gray (10YR 4/1) and brown (10YR 5/3) mottles; strong, medium, subangular blocky structure; friable; almost continuous ped coating and vertical tongues of dark-gray silty clay loam; many fine pores and fine roots; dark yellowish-brown material in many root channels; neutral; clear, smooth boundary.

C1—16 to 30 inches, gray (10YR 5/1) silty clay loam with common, fine, distinct, dark yellowish-brown (10YR 4/4) mottles; moderate, medium, prismatic structure; friable;

patchy, dark-gray ped coatings; thin lenses of grayish-brown silt loam; moderately alkaline; clear, smooth boundary.

C2—30 to 40 inches, gray (10YR 5/1) silty clay loam with common, fine, distinct, dark yellowish-brown (10YR 4/4) mottles; weak, medium, prismatic structure; friable; thin lenses of very fine sandy loam and clay; moderately alkaline; clear, smooth boundary.

IIC3—40 to 50 inches, thin lenses of gray (10YR 5/1) silty clay loam and very fine sandy loam with common, fine, distinct, grayish-brown (10YR 5/2) and dark yellowish-brown (10YR 4/4) mottles; friable; moderately alkaline.

The Ap horizon ranges from very dark grayish brown to dark gray in color, from 4 to 6 inches in thickness, and from silt loam to silty clay in texture. The color of the A&C horizon ranges from grayish brown mottled with brown and gray to very dark grayish brown mottled with gray, and the thickness ranges from 6 to 12 inches. The amount of brown mottling in the C horizon varies. The texture of all horizons ranges from silt loam to silty clay loam. The reaction is medium acid to neutral in the surface layer and neutral to moderately alkaline in the subsoil and substratum.

Mhoon silty clay loam (Mn).—This is a level or nearly level soil on the flood plain of the Mississippi River, in the southern part of the parish.

The surface layer is very dark grayish-brown, friable to firm silty clay loam about 8 inches thick. The subsoil, to a depth of 16 inches, is grayish-brown silty clay loam mottled with brown. Below a depth of 16 inches the material is stratified silty clay loam, silt loam, and clay loam and is predominantly gray with brown mottles.

Included in the areas mapped are small areas of Mhoon silty clay, Mhoon silty clay loam, and Commerce loam on undulating slopes.

Maintaining tilth in this Mhoon soil is somewhat difficult. The supply of nitrogen is low. The surface layer is slightly acid, and the subsoil and substratum are neutral to moderately alkaline.

This soil generally is wet in winter and spring. Runoff is slow, and permeability also is slow. Some areas are subject to occasional floods. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants. Drainage is needed, however, if these plants are grown.

Most of this soil is in pasture. Small areas on experimental farms of the Louisiana Agricultural Experiment Station are cultivated.

This soil is well suited to most crops commonly grown in the parish (Capability unit IIw–5; woodland suitability group 6; wildlife suitability group 1)

Mhoon silty clay (Mh).—This is a level or nearly level soil on the flood plain of the Mississippi River, along the southern border of the parish.

The surface layer is very dark grayish-brown silty clay. It is 6 inches thick. The subsoil, to a depth of 30 inches, is gray silty clay loam mottled with brown. The underlying material is stratified silt loam, silty clay loam, and silty clay. It is gray with some brown mottles.

Included in the areas mapped are small areas of Mhoon silty clay loam and Tunica clay.

This Mhoon soil generally is in poor tilth. It is low in content of nitrogen. It can be worked within only a narrow range of moisture content. This soil tends to become cloddy when worked, and seedbed preparation is difficult. Cracks develop in dry periods and then seal over in wet periods. The reaction is slightly acid to mildly alkaline in the surface layer and neutral to moderately alkaline in the subsoil and substratum.

This soil generally is wet in winter and spring. Runoff is slow, and permeability is very slow. Some areas are subject to occasional floods. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage is needed if these plants are grown.

About half the acreage is used for pasture and hay crops, and half is in mixed hardwood forest.

This soil is fairly well suited to most crops commonly grown in the parish, but it is not so well suited to corn. (Capability unit IIIw–2; woodland suitability group 6; wildlife suitability group 1)

Mhoon-Sharkey complex (Ms).—About 65 percent of this complex consists of Mhoon silty clay loam and Mhoon silty clay, and 35 percent consists of Sharkey clay. These soils, which are poorly drained, are in small areas on the flood plain of the Mississippi River, in the southern part of the parish.

The Mhoon soils have a dark grayish-brown surface layer about 6 inches thick. The subsoil is silty clay loam that is gray, or gray mottled with brown, and generally contains thin strata of silt loam and silty clay. The reaction is medium acid to mildly alkaline in the surface layer and neutral or moderately alkaline in the subsoil.

The Sharkey soil has a very dark grayish-brown clay surface layer that ranges from 7 to 12 inches in thickness. The subsoil is dark-gray or gray clay mottled with brown. The reaction is medium acid to moderately alkaline.

Included in the areas mapped is a small acreage of Tunica clay.

These Mhoon and Sharkey soils can be worked within only a narrow range of moisture content, and good tilth is difficult to maintain. The content of nitrogen is low, and the content of phosphorus and potassium is high. In areas that have a clay surface layer, cracks form as these soils dry and then seal over in wet periods. Seedbed preparation is difficult.

These soils generally are wet in winter and spring. Runoff is slow, and permeability is very slow. Some areas are subject to occasional floods. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall.

Most of the acreage is used for pasture, hay, and woodland. Only a few small areas are cultivated.

These soils are fairly well suited to most crops commonly grown in the parish, but they are not so well suited to corn and Coastal bermudagrass. (Capability unit IIIw–2; woodland suitability group 6; wildlife suitability group 1)

Ochlockonee Series

The Ochlockonee series consists of well-drained, moderately permeable, acid soils that formed in sandy alluvium. The surface layer is dark-brown to yellowish-brown fine sandy loam, and the underlying material is dark-brown to yellowish-brown stratified sandy loam to sand.

Ochlockonee soils are on narrow to broad, low ridges adjacent to the stream channels of the Amite River, the Comite River, and the larger tributaries of these streams. The soils in most places have convex slopes of 1 to 3 percent, but in some places they are level. Ochlockonee soils commonly adjoin Waverly and Falaya soils but are better drained and contain less silt and more sand.

Most areas of Ochlockonee soils are flooded once or twice each year. The acreage is mostly in forest consisting of mixed hardwoods and pines, but a small acreage is used for pasture.

Representative profile of Ochlockonee fine sandy loam, in a pasture located 1.6 miles northeast of the Baywood Post Office, in the eastern part of sec. 38, T. 4 S., R. 3 E.

A11—0 to 6 inches, dark yellowish-brown (10YR 4/4) fine sandy loam; weak, medium to coarse, subangular blocky structure; very friable; many small and medium roots; very strongly acid; clear, wavy boundary.

A12—6 to 9 inches, yellowish-brown (10YR 5/6) fine sand with many, medium, dark yellowish-brown (10YR 4/4) mottles; weak, coarse, subangular blocky structure; loose; very strongly acid; clear, wavy boundary.

A13—9 to 16 inches, dark yellowish-brown (10YR 4/4) fine sandy loam with common, medium, distinct, yellowish-brown (10YR 5/6) and dark-brown (7.5YR 4/4) mottles and few, fine, distinct, strong-brown (7.5YR 5/6) mottles; weak, medium and coarse, subangular blocky structure; very friable; very strongly acid; gradual, wavy boundary.

C1—16 to 28 inches, dark yellowish-brown (10YR 4/4) fine sandy loam with many, medium, faint, dark-brown (10YR 4/3) mottles and common, medium, distinct, yellowish-brown (10YR 5/6) mottles; weak, medium and coarse, subangular blocky structure; very friable; very strongly acid; gradual, wavy boundary.

C2—28 to 36 inches, dark yellowish-brown (10YR 4/4) fine sandy loam; very weak, medium and coarse, subangular blocky structure; very friable; very strongly acid; gradual, wavy boundary.

IIC3—36 to 42 inches, dark-brown (7.5YR 4/4) loamy fine sand; structureless; very friable; very strongly acid; gradual, wavy boundary.

IIC4—42 to 50 inches +, yellowish-brown (10YR 5/6) fine sand; structureless; loose; very strongly acid.

The A1 horizon ranges from dark brown to yellowish brown in color and from 12 to 20 inches in thickness. The C horizon ranges from dark brown to yellowish brown. Below a depth of 24 inches, the texture ranges from fine sandy loam to sand or gravelly sand. This part of the profile generally consists of stratified sandy loam and sand.

Ochlockonee fine sandy loam, overflow (Oc).—This soil is on undulating slopes and in level or nearly level areas on the flood plain of the Amite River, the Comite River, and the major tributaries of these streams.

The surface layer is dark-brown or dark yellowish-brown, friable fine sandy loam. The subsoil, to a depth of 30 inches, is dark yellowish-brown, friable fine sandy loam. Beneath this is dark-brown or dark yellowish-brown, friable sandy loam with lenses of coarse sand and fine gravel. In about 20 percent of the acreage, the material below a depth of 20 inches is fine sandy loam that is gray or gray mottled with brown.

Included in the areas mapped are sandbars along the rivers, and areas of Waverly-Falaya silt loams, overflow.

This Ochlockonee soil is low in nitrogen, potassium, and phosphorus and is strongly acid to very strongly acid. Permeability is moderate. Large areas are flooded once or twice each year, usually in April or May, and narrow areas along the smaller bayous are flooded frequently.

Most of the acreage is in forest consisting of mixed hardwoods and pines, but about 10 percent is in pasture.

This soil is suited to woodland and to most of the pasture plants commonly grown in the parish. Because it is flooded, it is not suited to cultivated crops. Except for bermudagrass, pasture crops may also be damaged by floods. (Capability unit Vw–1; woodland suitability group 4; wildlife suitability group 4)

Olivier Series

The Olivier series consists of somewhat poorly drained, slowly permeable, acid soils that formed in loesslike material. These soils have a surface layer of grayish-brown to yellowish-brown or brown silt loam and a subsoil of yellowish-brown silty clay loam to heavy silt loam mottled with shades of brown and gray. The lower part of the subsoil is a somewhat brittle fragipan of yellowish-brown silty clay loam or silt loam mottled with shades of brown and gray.

Olivier soils are nearly level to very gently sloping and occur throughout the parish. They commonly adjoin Loring, Providence, Calhoun, Fountain, Frost, Springfield, and Deerford soils. Olivier soils are more poorly drained than Loring and Providence soils and are better drained than Calhoun, Fountain, and Frost soils. Olivier soils are lower in clay content than Springfield soils. They are more acid in the lower subsoil than Deerford soils.

About half the acreage of Olivier soils is in forest consisting of mixed hardwoods and pines. The rest has been developed for urban use or is used for pasture. Only a small acreage is used for cultivated crops.

Representative profile of Olivier silt loam, in a pasture located 1 mile west of Plains and 100 feet north of the Plains-Port Hudson Highway, in the southeastern part of the northern part of sec. 61, T. 4 S., R. 1 W. Physical and chemical test data (sample No. S61La–17–1) are shown in table 8.

Ap—0 to 6 inches, grayish-brown (10YR 5/2) silt loam; weak, medium, granular structure; friable; common, soft, black and brown concretions; medium acid; abrupt, smooth boundary.

A2—6 to 9 inches, yellowish-brown (10YR 5/4) silt loam with few fine, faint, grayish-brown mottles; massive (structureless) to weak, medium and coarse, granular structure; friable; common, soft, brown and black concretions; medium acid; clear, smooth boundary.

B21t—9 to 15 inches, yellowish-brown (10YR 5/4) heavy silt loam; moderate, medium, subangular blocky structure; friable; patchy clay films; many, thin, patchy, brown (10YR 5/3, 6/2 when dry) silt films on peds; common, soft, yellowish-red to black Fe-Mn segregations; strongly acid; clear, wavy boundary.

B22t—15 to 22 inches, yellowish-brown (10YR 5/6) heavy silt loam with many grayish-brown (10YR 5/2) and brown (10YR 5/3) mottles and thin silt coatings; moderate, fine and medium, prismatic structure; firm; distinct, patchy clay films on vertical and horizontal faces of peds; common, fine, red to black Fe-Mn segregations; very strongly acid; gradual, wavy boundary.

Bx1—22 to 30 inches, yellowish-brown (10YR 5/4) heavy silt loam with common, fine, distinct, grayish-brown (10YR 5/2) and brown (10YR 5/3) mottles; strong, fine and medium, prismatic structure; firm; distinct, patchy clay films on vertical and horizontal faces of peds; thin, grayish-brown (10YR 5/2) silt coatings on prisms; many fine pores; common red to black Fe-Mn segregations; very strongly acid; clear, irregular boundary.

Bx2&A'2x—30 to 37 inches, yellowish-brown (10YR 5/4) medium silt loam with common, fine, distinct, grayish-brown (10YR 5/2) and brown (10YR 5/3) mottles; strong, medium and coarse, prismatic structure; firm; common, small, vertical veins of grayish-brown (10YR 5/2) silt between prisms; few patchy clay films; many fine pores; common yellowish-red to black Fe-Mn segregations; very strongly acid; gradual, smooth boundary.

Bx3&A'2x—37 to 52 inches, yellowish-brown (10YR 5/4) medium silt loam with common, fine, distinct, grayish-brown (10YR 5/2), light-gray (10YR 7/2), and yellowish-brown (10YR 5/6) mottles; strong, medium and coarse, prismatic structure; firm; vertical and horizontal veins of light brownish-gray (10YR 6/2) silt between prisms; many fine pores; common, soft, brown and black Fe-Mn segregations; strongly acid; diffuse, wavy boundary.

B'x—52 to 64 inches, yellowish-brown (10YR 5/6) medium silt loam; weak, medium and coarse, prismatic structure; firm; thin coatings of light brownish-gray (10YR 6/2) silt between prisms; many fine pores; strongly acid.

The texture of the A horizon ranges from silt to silt loam. The Ap horizon is brown to grayish brown. The A2 horizon ranges from predominantly gray mottled with yellowish brown to predominantly brown mottled with gray. The thickness of the Bt horizon ranges from 6 to 15 inches. The B2t horizon is yellowish brown to dark yellowish brown, and in some places the uppermost 4 to 6 inches is free of mottles. The Bx&A'2x horizon is 12 inches to several feet thick and ranges from brown to yellowish brown in color and has vertical streaks of pale-brown to grayish-brown or gray silt loam. The texture of this horizon ranges from silt loam to silty clay loam. The reaction is slightly acid to very strongly acid in the surface layer and strongly acid to very strongly acid in the subsoil and fragipan.

Olivier silt loam, 0 to 1 percent slopes (OlA).—This soil is scattered throughout the parish.

The surface layer is grayish-brown, friable silt loam about 9 inches thick. The subsoil, to a depth of 22 inches, is yellowish-brown, friable silty clay loam or heavy silt loam mottled with grayish brown. Beneath this layer is a firm, somewhat brittle fragipan of yellowish-brown silty clay loam or silt loam that is mottled with grayish brown and has thick tongues of gray silt or silt loam. This fragipan extends to a depth of 50 inches or more.

Included in the areas mapped are areas that have a loam or sandy loam texture below a depth of 36 inches, and small areas that have a subsoil of heavy silty clay loam with common red and yellowish-red mottles and continuous gray coatings on the peds.

This soil is fairly easy to keep in good tilth. The content of nitrogen, phosphorus, and potassium is low. The reaction ranges from slightly acid to very strongly acid in the surface layer and from strongly acid to very strongly acid in the subsoil, including the fragipan. Lime generally is needed.

Runoff is slow, and permeability also is slow. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Water stands in some places for a few days after heavy rains. Some areas need to be drained if used for cultivated crops.

About 50 percent of the acreage is in forest consisting of mixed hardwoods and pines, 25 percent has been developed for urban use, 20 percent is used for pasture and hay, and a small acreage is in pecan orchards. Only a small acreage is cultivated.

This soil is suited to most of the crops commonly grown in the parish. (Capability unit IIw-2; woodland suitability group 2; wildlife suitability group 2)

Olivier silt loam, 1 to 3 percent slopes (OlB).—This soil occurs throughout the parish.

The surface layer is grayish-brown friable silt loam about 9 inches thick. The subsoil, to a depth of 22 inches, is yellowish-brown, friable silty clay loam or heavy silt loam mottled with gray. Beneath this layer is a firm, somewhat brittle fragipan of yellowish-brown silt loam or silty clay loam that has thick tongues of gray silt and is mottled with grayish brown.

Included in the areas mapped are small areas that have a subsoil of heavy silty clay loam with prominent red and yellowish-red mottles and continuous gray coatings on the peds. Areas included in the northeastern part of the parish have sandy material below a depth of about 36 inches. Also included are small areas of Calhoun, Deerford, Providence, and Loring soils, and a few areas that have a slope range of 3 to 5 percent.

This Olivier soil is low in nitrogen, phosphorus, and potassium. The reaction is medium to strongly acid in the surface layer and strongly acid to very strongly acid in the subsoil, including the fragipan. Lime generally is needed.

Runoff is medium, and permeability is slow. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Erosion control is needed if clean-tilled crops are grown.

About 42 percent of the acreage is in forest consisting of mixed hardwoods and pines, 37 percent is used for pasture and hay, and 20 percent has been developed for urban use. Less than 1 percent is cultivated.

This soil is suited to most of the crops commonly grown in the parish. (Capability unit IIw-3; woodland suitability group 2; wildlife suitability group 3)

Providence Series

The Providence series consists of moderately well drained, slowly permeable, acid soils that formed in loess-like material over sandier material. These soils have a surface layer of brown, grayish-brown, or dark grayish-brown silt loam and a subsoil of brown to yellowish-red silty clay loam. The lower part of the subsoil is a somewhat brittle fragipan of brownish-yellow silt loam, loam, or very fine sandy loam with gray mottles. The material becomes more sandy as the depth increases.

Providence soils are gently sloping and occur mainly along the northeastern border of the parish. They commonly adjoin Loring and Olivier soils. Providence soils are similar to Loring soils in many respects but have a higher sand content in the lower part of the fragipan. Providence soils are better drained than Olivier soils and higher in sand content.

Most areas of Providence soils are used for pasture. Only a small acreage is used for cultivated crops, and the rest is in forest consisting of pines and a few hardwoods.

Representative profile of Providence silt loam, in a pasture located 0.7 mile northeast of the Baywood Church, SW¼SW¼ sec. 8, T. 4 S., R. 3 E.

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) silt loam; moderate, medium and fine, granular structure; friable; many fine pores; common fragments of charcoal; strongly acid; abrupt, smooth boundary.

B1—7 to 11 inches, yellowish-brown (10YR 5/6) silt loam; massive (structureless) to weak, medium, subangular blocky structure; friable; common fine and coarse pores; common dark grayish-brown worm casts; very strongly acid; clear, smooth boundary.

B2t—11 to 22 inches, strong-brown (7.5YR 5/6) silty clay loam; moderate, medium, subangular blocky structure; friable; many fine pores; thin, patchy clay films in larger pores and root channels; common vertical veins of yellowish-brown silt loam; few, soft, brown concretions; very strongly acid; abrupt, wavy boundary.

Bx1—22 to 35 inches, brownish-yellow (10YR 6/6) silt loam with common, fine, distinct, light brownish-gray (10YR 6/2) mottles; moderate, medium, subangular blocky structure and moderate, medium, prismatic structure; firm; common, thin, patchy clay skins of strong brown; many fine and coarse pores; common, soft, black manganese coatings and concretions; few, hard, brown concretions; common vertical veins and films of very pale brown silt on peds; very strongly acid; gradual, smooth boundary.

IIBx2—35 to 49 inches, yellowish-brown (10YR 5/6) loam; strong, coarse, prismatic structure; firm; patchy, strong-brown clay films on prism faces; common films and vertical veins of light-gray silt on and in prisms; common fine and medium pores; few brown concretions; very strongly acid.

IIBx3—49 to 74 inches, brownish-yellow (10YR 6/6) loam with common light-gray (10YR 7/2) mottles or vertical veins of silt and common red (2.5YR 5/8) mottles; firm; very strongly acid.

The Ap horizon ranges from brown to grayish brown or dark grayish brown in color and from 5 to 10 inches in thickness. The B1 horizon is strong brown to yellowish brown and is 2 to 6 inches thick. The B2t horizon is brown to yellowish red or strong brown and 8 to 14 inches thick. The texture of the Bx horizon ranges from silt loam to silty clay loam in the upper part to loam and very fine sandy loam in the lower part. The reaction is medium acid to very strongly acid throughout these soils.

Providence silt loam, 1 to 3 percent slopes (PrB).—This soil is mainly in the northeastern part of the parish.

The surface layer is a dark grayish-brown, friable silt loam about 8 inches thick. The subsoil, to a depth of 24 inches, is brown, friable silty clay loam with a few clay films. Beneath this layer is a firm, somewhat brittle fragipan of brown or mottled silt loam or silty clay loam that grades to loam in the lower part.

Included in the areas mapped are small areas of Olivier soils.

This Providence soil is easy to work and generally is in good tilth. The content of nitrogen, phosphorus, and potassium is low. The reaction ranges from strongly acid to very strongly acid. Lime generally is needed.

Runoff is medium, and permeability is slow. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Erosion control is needed if clean-tilled crops are grown.

About 80 percent of the acreage is used for pasture and hay, and 20 percent is in forest consisting of pines and mixed hardwoods.

This soil is suited to most crops commonly grown in the parish. (Capability unit IIe-1; woodland suitability group 3; wildlife suitability group 3)

Sharkey Series

The Sharkey series consists of poorly drained, very slowly permeable, alkaline soils that formed in clayey alluvium deposited by the Mississippi River. These soils have a surface layer of very dark grayish-brown to dark-gray clay or silty clay loam. The underlying material is gray clay mottled with brown.

Sharkey soils occur in depressions and back swamps on the Mississippi River flood plain. They commonly adjoin Tunica and Mhoon soils. Sharkey soils are similar to Tunica soils in many respects but have finer textured material in the lower horizons. They are finer textured throughout than Mhoon soils.

About half the acreage of Sharkey soils not subject to floods is used for pasture and cultivated crops. A small acreage has been developed for urban use, and the rest is in mixed hardwood forest.

Representative profile of Sharkey clay, in a field of sugarcane located 0.3 mile south of Box Stadium and 0.7 mile east of the Mississippi River, NW¼NE¼ sec. 56, T. 7 S., R. 1 W.

Ap1—0 to 1 inch, very dark grayish-brown (10YR 3/2) silty clay or clay; strong, fine and medium, granular structure; firm; abrupt, smooth boundary.

Ap2—1 inch to 7 inches, very dark grayish-brown (10YR 3/2) clay; weak, thick, platy structure; plastic; mildly alkaline; gradual, smooth boundary.

A1—7 to 16 inches, dark-gray (10YR 4/1) clay with many, fine, distinct, dark yellowish-brown (10YR 4/4) mottles; strong, medium and fine, angular blocky structure; plastic; mildly alkaline; gradual, smooth boundary.

AC—16 to 30 inches, gray (10YR 5/1) clay with dark grayish-brown (10YR 4/2) mottles; strong, fine and medium, angular blocky structure; plastic; mildly alkaline; gradual, smooth boundary.

C1—30 to 40 inches, gray (10YR 5/1) clay with many, fine, distinct, dark-brown (10YR 4/3) and very dark grayish-brown (10YR 3/2) mottles; strong, fine and medium, angular blocky structure; few slickensides; plastic; mildly alkaline; clear, smooth boundary.

C2—40 to 48 inches, gray (10YR 6/1) clay, 20 percent mottled with dark brown (10YR 4/3) and yellowish brown (10YR 5/4); moderate, medium, subangular blocky structure; plastic; mildly alkaline.

The A horizon normally is very dark grayish brown, but the color ranges to dark grayish brown, dark gray, or very dark gray. This horizon is 8 to 16 inches thick. Generally, the lower part of the Ap horizon is platy in cultivated fields. The C horizon is dominantly gray in color and has variable amounts of brown mottles. The reaction is slightly acid to mildly alkaline in the A horizon and mildly alkaline or moderately alkaline in the C horizon.

Sharkey clay (Sc).—This is a level or nearly level soil on the Mississippi River flood plain, along the southern border of the parish. In places it is in depressions. Locally it is called a buckshot soil because the peds in the surface layer are the size of buckshot.

The surface layer is very dark grayish-brown clay about 6 to 8 inches thick. The underlying material is gray clay mottled with brown.

Included in the areas mapped are small areas of Tunica clay.

Keeping this Sharkey soil in good tilth is difficult. The content of phosphorus and potassium is moderate to high, and the content of nitrogen is low. This soil can be worked within only a narrow range of moisture content. It tends to become cloddy when worked. Seedbed preparation is difficult. Cracks develop in dry periods and then seal over in wet periods. The reaction is slightly acid to moderately alkaline.

This soil generally is wet in winter and spring. Runoff is slow, and permeability is very slow. Some areas are subject to occasional floods. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage is needed to remove excess surface water if crops are grown.

About 60 percent of the acreage is in mixed hardwood forest, 29 percent is used for cultivated crops and for pasture and hay, and 11 percent has been developed for urban use. Only a few small fields are used for cultivated crops.

This soil is fairly well suited to most of the crops commonly grown in the parish, but it is not so well suited to corn and Coastal bermudagrass. It is well suited to rice. (Capability unit IIIw–2; woodland suitability group 6; wildlife suitability group 1)

Sharkey silty clay loam (Sh).—This is a level or nearly level soil of the Mississippi River flood plain, along the southern border of the parish.

The surface layer is very dark grayish-brown silty clay loam about 10 inches thick. The subsoil is gray clay mottled with brown and dark gray. In a few places, the soil material is very dark grayish brown to a depth of about 18 inches.

Included in the areas mapped are small areas of Sharkey clay and small areas that have a 10- or 12-inch surface layer of silt loam or very fine sandy loam.

This Sharkey soil is in fairly good tilth, and preparing a seedbed is not difficult. Most areas are well supplied with phosphorus and potassium but are low in nitrogen. The reaction is slightly acid to moderately alkaline in the surface layer and neutral to moderately alkaline in the subsoil and substratum.

This soil generally is wet in winter and spring. Runoff is slow to very slow, and permeability is very slow. Some areas are subject to occasional floods. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage is needed, however, if these crops are grown.

About 50 percent of the acreage is in mixed hardwood forest, 45 percent is used for pasture and hay, and a small acreage is cultivated.

This soil is fairly well suited to most of the crops commonly grown in the parish. (Capability unit IIIw–2; woodland suitability group 6; wildlife suitability group 1)

Sharkey-Tunica clays, undulating (SmB).—These soils form a repeating pattern of ridges and swales or depressions on the Mississippi River flood plain, in the southern part of the parish. About 40 percent of the acreage is Sharkey clay in swales and depressions, 40 percent is gently undulating Tunica clay on convex ridges, and the rest is chiefly Mhoon silty clay.

These soils have a surface layer of dark grayish-brown clay and a subsoil of gray clay mottled with brown. The Sharkey soil is made up entirely of clay, whereas the Tunica soil is underlain by loam, silt loam, or silty clay loam below a depth of about 18 to 24 inches.

These soils are slightly acid to mildly alkaline in the surface layer and neutral to moderately alkaline in the subsoil. They are high in phosphorus and potassium but are low in nitrogen. They generally are wet in winter and spring. Runoff is medium on the ridges and slow in the swales. Permeability is very slow. Some areas are subject to occasional floods. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage is needed to remove excess surface water if the swales are used for crops.

The soils in this complex can be worked within only a narrow range of moisture content. They tend to become cloddy when worked, and preparing a seedbed is difficult. Deep cracks form in dry periods and seal over in wet periods. Cultivation is difficult because of the short and irregular slopes, the clay texture, and wetness in the swales.

About 85 percent of the acreage is in mixed hardwood forest, and the rest is used for pasture and hay.

These soils are fairly well suited to most of the crops commonly grown in the parish, but they are not so well suited to corn and Coastal bermudagrass. (Capability unit IIIw–2; woodland suitability group 6; wildlife suitability group 1)

Sharkey-Tunica association, overflow (Sk).—These associated soils are in nearly level areas and depressions on Profit Island and on the flood plain of the Mississippi River along the western border of the parish. About 40 percent is Sharkey clay, 30 percent is Tunica clay, and the rest consists of Mhoon and Commerce soils.

The soils of this association have a surface layer of very dark gray clay and a subsoil of gray clay mottled with brown. The Sharkey soil is made up entirely of clay, whereas the Tunica soil is underlain by silt loam or silty clay loam below a depth of about 24 inches.

These soils are mildly alkaline to moderately alkaline throughout. Because they are wet and frequently flooded, they are not suited to cultivated crops. Most areas are not readily accessible and cannot be managed along with the adjacent farmland, except as woodland or pasture. This association can be used for wildlife and recreation. (Capability unit Vw–2; woodland suitability group 6; wildlife suitability group 4)

Sharkey-Tunica clays, overflow (Sm).—These soils are in frequently flooded, broad depressions and catch basins on the bottom land of the Mississippi River, in the southern part of the parish. Sharkey clay makes up most of the acreage; Tunica clay makes up about 20 or 30 percent.

The surface layer of these soils consists of 1 to 2 inches of dark-gray clay or mucky clay over dark-gray clay mottled with brown that extends to a depth of 6 to 8 inches. The subsoil is gray clay mottled with brown. Sharkey clay has a substratum of gray clay several feet thick. Tunica clay has a substratum of gray loam to silt loam and silty clay loam below a depth of 18 to 24 inches. Both soils are slightly acid to mildly alkaline in the surface layer and neutral to moderately alkaline in the subsoil.

Included in the areas mapped are small areas of Mhoon silty clay.

Soils of this complex have very slow runoff and generally are flooded in winter and spring. Although they dry out in summer, the water table generally remains close to the surface. Most areas are too wet for farming and are in mixed hardwood forest, but small areas are in pasture. Woodland and wildlife are the most suitable uses. (Capability unit Vw–2; woodland suitability group 6; wildlife suitability group 4)

Smoothed Land

Smoothed land, Dundee and Tensas materials (So), consists of leveled and smoothed areas of Dundee-Tensas-Sharkey complex, undulating. In the process of smoothing, 1 to 2 feet of material was removed from Dundee silt loam, Dundee silty clay loam, and Tensas clay, which were on gently convex ridges, and spread over Sharkey clay, which was in depressions. The result is a level field of slightly less than 300 acres, in which it is no longer possible to differentiate between the soils.

This land type ranges from good to poor in tilth, from grayish brown to gray in color, and from silt loam to clay in texture. Most areas are medium acid to strongly acid. The content of phosphorus and potassium is moderate, and the content of nitrogen is low.

Runoff is slow, and permeability is slow to very slow. In most years the supply of moisture is adequate for cultivated crops and pasture plants. Drainage is needed, however, if these crops are grown.

The acreage is suited to most of the crops commonly grown in the parish, but it is used mainly for pasture. (Capability unit IIIw-1; woodland suitability group 6; wildlife suitability group 1)

Springfield Series

The Springfield series consists of somewhat poorly drained, very slowly permeable, acid soils that formed in loesslike material. These soils have a surface layer of pale-brown, gray, or grayish-brown silt loam. The subsoil is brownish-gray clay or silty clay in the upper part and grades to silty clay loam in the lower part. It is mottled with brown and red. The underlying material is yellowish-brown silt loam mottled with gray. In this parish Springfield soils are more acid in the B3 and C horizons than is typical for the series.

These are nearly level soils, mainly in the southeastern part of the parish. They commonly adjoin Olivier and Calhoun soils. Springfield soils lack the fragipan that occurs in Olivier soils and have a finer textured subsoil. They are better drained and have a finer textured subsoil than Calhoun soils.

Most areas of Springfield soils are in forest consisting of pines and mixed hardwoods. A small acreage is used for pasture.

Representative profile of Springfield silt loam, in a forested area located 1.3 miles west of the Amite River, NW¼SE¼ sec. 57, T. 8 S., R. 3 E.

A1—0 to 2 inches, very dark grayish-brown (10YR 3/2) silt loam; moderate, medium and fine, granular structure; friable; medium acid; abrupt, smooth boundary.

A21g—2 to 9 inches, pale-brown (10YR 6/3) silt loam with many, fine, faint, light-gray (10YR 7/2) and grayish-brown (10YR 5/2) mottles; massive; friable; few dark-brown worm casts; few tongues of light-gray silt loam; few fine pores; few brown and black concretions; very strongly acid; gradual, smooth boundary.

A22g—9 to 12 inches, very pale brown (10YR 7/3) silt loam with common, fine, faint, light-gray (10YR 7/2) mottles; massive; many fine pores; few root channels filled with light-gray silt loam; many, weak, yellowish-brown concretions; many, hard, brown and black concretions; very strongly acid; gradual, wavy boundary.

A&B—12 to 16 inches, gray (10YR 6/1) silt loam with common, fine, distinct, yellowish-brown (10YR 5/4) and light brownish-gray (10YR 6/2) mottles; massive; friable; consists partly of strong, medium, subangular blocky peds of silty clay that are yellowish brown (10YR 5/4) and yellowish red (5YR 4/6) and tongued with gray silt loam; few fine pores; few brown and black concretions; very strongly acid; abrupt, wavy boundary.

B2t—16 to 23 inches, light brownish-gray (10YR 6/2) silty clay with common, fine, distinct, yellowish-brown (10YR 5/6) mottles and common, fine, prominent, yellowish-red (5YR 4/6) mottles; weak, medium and coarse, prismatic structure that breaks to weak, medium, subangular blocky; plastic; almost continuous, grayish-brown clay films on horizontal and vertical faces of peds; few tongues of light-gray silt loam; few fine pores; few, soft, black concretions; very strongly acid; abrupt, smooth boundary.

B3t—23 to 32 inches, yellowish-brown (10YR 5/4) silty clay loam with common, fine, distinct, light brownish-gray (10YR 6/2) mottles; weak, coarse, prismatic structure; friable; thin, patchy, grayish-brown clay films; few root channels coated or filled with grayish-brown clay; few fine pores; few brown and black concretions; very strongly acid; clear, smooth boundary.

C—32 to 68 inches, yellowish-brown (10YR 5/6) silt loam with many, fine, distinct mottles and root channel fillings of light brownish gray (10YR 6/2); massive; friable; slightly hard when dry; few fine pores; few, soft and hard, black concretions; medium acid.

The A1 horizon ranges from grayish brown to very dark grayish brown in color and from 2 to 4 inches in thickness. The A2g horizon ranges from pale brown mottled with gray to gray mottled with brown and is 6 to 14 inches thick. In color, the B2t horizon ranges from predominantly gray to predominantly brown, and in thickness, from 4 to 14 inches. The C horizon ranges from mottle free to mottled with gray. The reaction is medium acid to very strongly acid in the A and B horizons and medium acid to moderately alkaline in the C horizon.

Springfield silt loam (Sp).—This soil is level or nearly level and occurs on ridges in the southeastern part of the parish.

The surface layer is gray or grayish-brown, friable to firm silt loam about 12 inches thick. The subsoil, to a depth of 24 inches, is brownish-gray clay or silty clay mottled with gray, brown, and red. Beneath this layer is yellowish-brown, friable silt loam or silty clay loam mottled with gray.

Included in the areas mapped are small areas of Olivier soils and areas in which the subsoil is brown clay mottled with red and gray.

This Springfield soil is low in phosphorus, potassium, and nitrogen. The surface layer and subsoil are medium acid to very strongly acid, and the substratum is medium acid to mildly alkaline. Lime generally is needed.

Runoff is slow, and permeability is very slow. Water stands in some places after heavy rains. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage may be needed if these crops are grown.

Most of the acreage is in forest consisting of pines and mixed hardwoods, but about 14 percent is used for pasture.

This soil is better suited to pasture crops than to cultivated crops because it is wet and low in natural fertility. (Capability unit IIIw-5; woodland suitability group 2; wildlife suitability group 2)

Springfield-Olivier silt loams (Sr).—These soils are in a complex pattern on broad, level or nearly level flats in the southeastern part of the parish. About 60 percent of the acreage is Springfield silt loam, and 30 percent is Olivier silt loam.

The Springfield soil has a gray or grayish-brown, friable surface layer about 12 inches thick. The subsoil, to a depth of 30 inches, is brownish-gray silty clay mottled with brown, gray, and red. Beneath this layer is yellowish-brown, friable silty clay loam or silt loam mottled with gray.

The Olivier soil has a grayish-brown surface layer about 10 inches thick. The subsoil is yellowish-brown, friable silty clay loam mottled with gray and brown. The lower part of the subsoil is a somewhat brittle fragipan of yellowish-brown silty clay loam or silt loam mottled with shades of gray and brown.

Included in the areas mapped are small areas of Calhoun silt loam and areas that have a slope range of 1 to 3 percent.

The soils of this complex are low in nitrogen, phosphorus, and potassium. They are medium acid to very strongly acid in reaction, except that the substratum of the Springfield soil is medium acid to mildly alkaline. Lime generally is needed.

Runoff is slow in the level areas and moderate on the slopes. Permeability is very slow in the Springfield soil and slow in the Olivier soil. Water stands in some places after heavy rains. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage may be needed if these crops are grown.

About 70 percent of the acreage is in forest consisting of mixed hardwoods and pines. Most of the rest is in pasture.

These soils are suited to most of the crops commonly grown in the parish. (Capability unit IIIw-5; woodland suitability group 2; wildlife suitability group 2)

Tensas Series

The Tensas series consists of somewhat poorly drained to poorly drained, very slowly permeable, acid soils that formed in clayey Mississippi River alluvium. These soils have a surface layer of dark grayish-brown silty clay and a subsoil of dark-brown and dark yellowish-brown silty clay and silty clay loam mottled with gray. The underlying material is gray silty clay loam or loam mottled with brown.

These soils are on the flood plain of the Mississippi River, in the southern part of the parish. They commonly adjoin Dundee, Tunica, and Sharkey soils. Tensas soils are similar to Tunica soils but are acid instead of alkaline. They are not so fine textured in the lower part as Sharkey soils, which also are alkaline. Tensas soils have a finer textured subsoil than Dundee soils.

Most areas of Tensas soils are in mixed hardwood forest, but a small acreage is used for pasture.

In this parish Tensas soils are mapped only in mapping units with Dundee and Sharkey soils and Smoothed land. These mapping units are described under the Dundee series and Smoothed land.

Representative profile of Tensas silty clay, in a pasture located 0.7 mile southwest of Arlington School in the western part of the NE¼ sec. 74, T. 8 S., R. 1 W.

A11—0 to 2 inches, dark grayish-brown (10YR 4/2) silty clay; moderate, medium and fine, granular structure; firm; clear, smooth boundary.

A12—2 to 7 inches, very dark grayish-brown (10YR 3/2) silty clay; coarse, subangular blocky structure that breaks to moderate, medium, subangular blocky; plastic; numerous streaks of yellowish brown in root channels; very strongly acid; gradual, smooth boundary.

B21t—7 to 10 inches, dark-brown (10YR 4/3) silty clay with many, fine, faint, dark grayish-brown (10YR 4/2) mottles; coarse prismatic structure that breaks to moderate, medium, subangular blocky; plastic; dark-gray clay films on all peds; very strongly acid; gradual, smooth boundary.

B22t—10 to 22 inches, dark yellowish-brown (10YR 4/4) silty clay with many, fine, distinct, gray (10YR 5/1) mottles; strong, medium, prismatic structure that breaks to strong, medium, subangular blocky; plastic; almost continuous, gray clay films on ped faces; very strongly acid; gradual, smooth boundary.

B31tg—22 to 36 inches, gray (10YR 5/1) heavy silty clay loam with common, fine, distinct, dark yellowish-brown (10YR 4/4) and yellowish-brown (10YR 5/4) mottles; moderate, medium, subangular blocky structure; slightly plastic; almost continuous, gray clay films on ped faces; few pores; medium acid; diffuse, irregular boundary.

B32tg—36 to 42 inches, gray (10YR 5/1) silty clay loam with common, fine, distinct, brown (10YR 5/3) and yellowish-brown (10YR 5/4) mottles; moderate, coarse, prismatic structure; friable; patchy, gray clay films; neutral; diffuse, irregular boundary.

IICg—42 to 48 inches, light brownish-gray (10YR 6/2) loam with common, fine, distinct, dark yellowish-brown (10YR 4/4) and yellowish-brown (10YR 5/6) mottles; massive; friable; neutral.

The A1 horizon ranges from gray or dark grayish brown to very dark grayish brown in color, from silty clay to clay in texture, and from 6 to 12 inches in thickness. The color of the B2t horizon ranges from very dark grayish brown to yellowish brown, the thickness from 10 to 16 inches, and the number of gray mottles from few to many. The color of the clay films ranges from very dark gray to gray. The texture of the IIC horizon ranges from silty clay loam to loam, and in some places there are lenses of clay 2 to 4 inches thick. The reaction is medium acid to very strongly acid in the uppermost 20 inches and strongly acid to mildly alkaline below that depth.

Terrace Escarpments

Terrace escarpments (Te) are between terraces and flood plains in the western and southern parts of the parish. They are mostly narrow and steep and are highly dissected by ravines and drainageways.

The soil material ranges from sandy loam to silty clay but is mainly silt or silt loam. In some areas it is brown silt or silt loam to a depth of 4 feet or more. In other areas silt loam extends to a depth of 3 feet and is underlain by brown or yellow silty clay loam, and in still other areas silt loam extends to a depth of more than 3 feet and is underlain by sandy loam. The reaction ranges from strongly acid to very strongly acid.

Included in the areas mapped are small areas of Memphis, Loring, and Olivier soils.

Most of the pasture plants commonly grown in the parish can be grown on these escarpments, but management is difficult. Erosion is a major hazard in areas left bare. Pasture, woodland, wildlife, and recreation are suitable uses. Most areas are in forest consisting of mixed hardwoods and pines. (Capability unit VIe-1; woodland suitability group 3; wildlife suitability group 3)

Tunica Series

The Tunica series consists of poorly drained, very slowly permeable, alkaline soils that formed in clayey Mississippi River alluvium. These soils have a surface layer of dark-gray or very dark grayish-brown clay mottled with brown. The material below a depth of about 20 inches is grayish-brown to gray silty clay loam mottled with brown.

Tunica soils occur on Profit Island and in the southern part of the parish, on the Mississippi River flood plain. They commonly adjoin Sharkey and Mhoon soils. Tunica soils are similar to Sharkey soils in many respects but are coarser textured in the lower horizons. They are finer textured than Mhoon soils.

Most areas of Tunica soils are in mixed hardwood forest. Areas that have been cleared are used primarily for pasture.

Representative profile of Tunica clay, in a pasture located 0.1 mile north of River Road, in the southeastern part of sec. 65, T. 8 S., R. 1 W.

A11—0 to 2 inches, very dark gray (10YR 3/1) clay; massive (structureless) to weak, coarse, subangular blocky structure; plastic; slightly acid; abrupt, smooth boundary.

A12—2 to 8 inches, dark-gray (10YR 4/1) clay with common, fine, distinct, dark-brown (10YR 4/3) and yellowish-brown (10YR 5/4) mottles; moderate, medium, prismatic structure and moderate, medium, subangular blocky structure; some yellowish-red material in root channels; plastic; slightly acid; gradual, smooth boundary.

AC—8 to 19 inches, gray (10YR 5/1) clay with common, fine, distinct, dark-brown (10YR 4/3) and yellowish-brown (10YR 5/4) mottles; moderate, medium, prismatic structure and moderate, medium, subangular blocky structure; plastic; few, soft, black concretions; slightly acid; abrupt, smooth boundary.

IIC1—19 to 32 inches, grayish-brown (2.5Y 5/2) silty clay loam with common, fine, distinct, gray (10YR 5/1) and dark-brown (10YR 4/3) mottles; moderate, medium, subangular blocky structure; friable; a 2- or 3-inch lens of grayish-brown (2.5Y 5/2) clay at a depth of 24 inches; few, soft, brown and black concretions; neutral; gradual, smooth boundary.

IIC2—32 to 36 inches, gray (10YR 5/1) silty clay loam with dark-brown (10YR 3/3) mottles; moderate, medium, subangular blocky structure; friable; yellowish-red material in few root channels; few, soft, brown and black concretions; neutral; abrupt, smooth boundary.

IIIC3—36 to 44 inches, gray (10YR 5/1) clay with dark-brown (10YR 4/3) mottles; moderate, medium, subangular blocky structure; plastic; yellowish-red material in few root channels; few, soft, brown and black concretions; mildly alkaline.

The A1 horizon ranges from very dark gray to very dark grayish brown in color and from 6 to 12 inches in thickness. The AC horizon is 8 to 12 inches thick. The IIC horizon, which begins at a depth of 18 to 28 inches, ranges from silt loam to silty clay loam, and in many places it contains lenses of clay 1 inch to 2 inches thick. The reaction is slightly acid to mildly alkaline in the uppermost 18 inches and neutral to moderately alkaline below that depth.

Tunica clay (Tn).—This soil is in small areas throughout the flood plain of the Mississippi River, in the southern part of the parish.

The surface layer is dark grayish-brown or dark-gray clay about 6 to 8 inches thick. The subsoil is gray clay to a depth of about 20 inches and is underlain by gray, friable silty clay loam. Brown mottles occur in all the horizons.

Included in the areas mapped are small areas of Mhoon silty clay and Sharkey clay.

This Tunica soil can be worked within only a narrow range of moisture content. It tends to become cloddy when worked. Seedbed preparation is difficult. Cracks form in dry periods and seal over in wet periods. The content of phosphorus and potassium is high, but that of nitrogen is low. The reaction ranges from slightly acid to moderately alkaline.

This soil generally is wet in winter and spring. Runoff is slow, and permeability is very slow. Some areas are subject to occasional floods. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall. Drainage is needed if these crops are grown.

About 60 percent of the acreage is in mixed hardwood forest, and 40 percent is used for pasture and hay.

This soil is fairly well suited to most of the crops commonly grown in the parish, but it is not so well suited to corn and Coastal bermudagrass. (Capability unit IIIw-2; woodland suitability group 6; wildlife suitability group 1)

Tunica-Sharkey clays (Ts).—These soils occur in a complex pattern in the southern part of the parish. They are in level or nearly level areas and depressions, mainly in the back swamps or slack-water areas of the Mississippi River. About 60 percent of the acreage is Tunica clay, and 30 percent is Sharkey clay.

These soils have a very dark grayish-brown surface layer about 8 inches thick. The subsoil is gray clay mottled with brown. The Sharkey soil has a substratum of gray clay, but the Tunica soil is underlain by gray, friable silty clay loam or silt loam below a depth of about 22 inches.

Included in the areas mapped are small areas of Mhoon silty clay.

These Tunica and Sharkey soils can be worked within only a narrow range of moisture content. They become cloddy when worked. Seedbed preparation is difficult. Cracks form in dry periods and seal over in wet periods. The content of phosphorus and potassium is high, but that of nitrogen is low.

These soils generally are wet in winter and spring. Runoff is slow, and permeability is very slow. Some areas are subject to occasional floods and need to be drained if used for crops. The supply of moisture is adequate for cultivated crops and pasture plants, except during dry periods that sometimes occur in summer and fall.

About half the acreage is in mixed hardwood forest. The rest is used mainly for pasture and hay, but a small acreage is cultivated.

These soils are fairly well suited to most of the crops commonly grown in the parish, but they are not so well suited to corn and Coastal bermudagrass. (Capability unit IIIw-2; woodland suitability group 6; wildlife suitability group 1)

Verdun Series

The Verdun series consists of somewhat poorly drained, very slowly permeable soils that formed in loesslike material. These soils have a medium acid to alkaline surface layer and an alkaline subsoil. The sodium content is high throughout the subsoil. These soils have a surface layer of brown or grayish-brown silt loam mottled with gray and brown in the lower part. The subsoil is dark yellowish-brown to light olive-brown silty clay loam mottled with shades of brown and, in the lower part, with gray. The underlying material is light olive-brown silt loam mottled with gray and brown.

These nearly level soils occur throughout the parish. They commonly adjoin Deerford and Fred soils. Verdun soils are similar to these associated soils in many respects, but Deerford soils have sodium only in the lower subsoil, and Fred soils lack concentration of sodium.

Verdun soils are droughty. Most of the acreage is used for pasture, and the rest has been developed for urban use or is in mixed hardwood forest.

Representative profile of Verdun silt loam, located 1.1 miles east of the intersection of Hammond Highway and Sharp Station Road and 250 feet south of Hammond Highway, SW¼SW¼ sec. 5, T. 7 S., R. 2 E. Physical and chemical test data (sample No. S61La–17–10) are shown in table 8.

A1—0 to 4 inches, grayish-brown (10YR 5/2) silt loam with few, fine, distinct, dark yellowish-brown (10YR 3/4) mottles or weak concretions; moderate, medium, granular structure; friable; common small concretions and few, medium, black concretions; medium acid; abrupt, smooth boundary.

A2—4 to 6 inches, dark grayish-brown (10YR 4/2) silt loam with common, faint, light brownish-gray (10YR 6/2) mottles and few, fine, distinct, light yellowish-brown (10YR 6/4) mottles; moderate, medium, platy structure; friable; common, small, soft and hard, black concretions; slightly acid; abrupt, wavy boundary.

B21t—6 to 11 inches, dark yellowish-brown (10YR 3/4) silty clay loam with many, fine, faint, very dark grayish-brown (10YR 3/2) mottles and many, fine, distinct, strong-brown (7.5YR 5/6) mottles or weak concretions; moderate, coarse, columnar structure; peds partly coated with light-gray silt; thin, very dark brown clay skins on some ped faces; very firm; moderately alkaline; diffuse, irregular boundary.

B22t—11 to 19 inches, olive-brown (2.5Y 4/4) light silty clay loam with few, faint, yellowish-brown (10YR 5/8), strong-brown (7.5YR 5/6), and pale-brown (10YR 6/3) mottles; weak, medium, subangular blocky structure; firm; peds partly coated with grayish-brown silt; some thin, very dark grayish-brown films on peds; few small concretions of calcium carbonate; common, small, soft and hard, black and brown concretions; moderately alkaline; diffuse, irregular boundary.

B3—19 to 35 inches, light olive-brown (2.5Y 5/4) light silty clay loam with few, fine, faint, yellowish-brown (10YR 5/8) and light brownish-gray (2.5Y 6/2) mottles; massive; somewhat firm; grayish-brown silt loam in veins, old root channels, and krotovinas; some very dark brown and black manganese oxide stains in old root channels; few large concretions of calcium carbonate; common, medium, soft, black concretions; moderately alkaline; diffuse, irregular boundary.

C1—35 to 48 inches, light olive-brown (2.5Y 5/4) silt loam with few, fine, faint, yellowish-brown (10YR 5/8) and light brownish-gray (2.5Y 6/2) mottles; massive; friable; grayish-brown silt loam in vertical veins, old root channels, and few krotovinas; common very dark brown and black stains of manganese oxide; some clay or silty clay in veins and root channels; few large concretions of calcium carbonate; common, medium, soft, black concretions; moderately alkaline.

C2—48 to 60 inches, light olive-brown (2.5Y 5/4) silt loam with few, fine, faint, yellowish-brown (10YR 5/8) and light brownish-gray (2.5Y 6/2) mottles; massive; friable; grayish-brown silt loam in vertical veins, old root channels, and few krotovinas; common very dark brown and black stains and weak concretions of manganese oxide; very dark brown or black silty clay in some small veins or old root channels; few large concretions of calcium carbonate; common, medium, soft, black concretions; moderately alkaline.

The A1 horizon ranges from 4 to 6 inches in thickness and from brown to grayish brown in color. The A2 horizon, where present, ranges from 2 to 6 inches in thickness; the color ranges from dark grayish brown to grayish brown. The B2t horizon ranges from dark brown to yellowish brown in color and from 8 to 30 inches in thickness. In the uppermost 6 inches of this layer, there normally are dark-colored clay films on the peds. The B3 horizon ranges from brown to yellowish brown or olive brown. In places the B3 is free of mottles, and in other places as much as 5 percent of the material in the B3 and horizons is mottled with pale brown and light brownish gray. Soft, black concretions and dendritic patterns of manganese oxide are common throughout the B3 and C horizons. The reaction ranges from medium acid to moderately alkaline in the uppermost 10 to 16 inches, and from neutral to moderately alkaline below that depth. Lime concretions commonly occur at a depth between 18 and 36 inches.

Verdun silt loam (Vd).—This soil is in small areas throughout the parish. It is high in sodium content below a depth of 6 to 12 inches.

The surface layer is brown or grayish-brown, friable to firm silt loam about 7 inches thick. The subsoil, to a depth of 24 inches, is yellowish-brown, firm silty clay loam with dark-colored clay films and gray silt coatings. Beneath this layer is yellowish-brown or olive-brown, friable silt loam with a few lime concretions (fig. 3) and a few gray mottles.

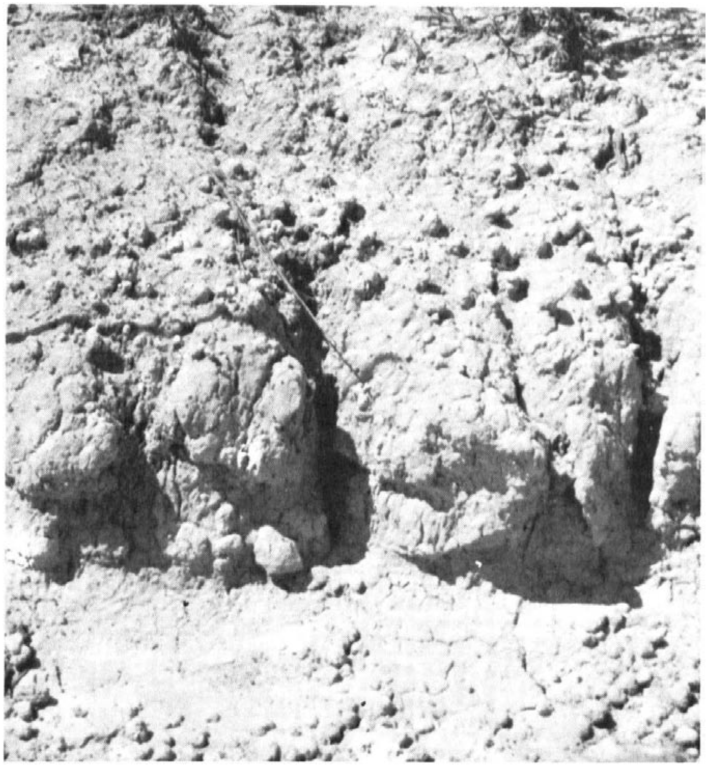

Figure 3.—Lime concretions exposed in a road cut in Verdun silt loam.

Included in the areas mapped are numerous small scabby spots that cover less than one-fourth acre and have extremely poor vegetation.

This soil generally is low in nitrogen, phosphorus, and potassium. It is medium acid to moderately alkaline in the surface layer and moderately alkaline in the subsoil and substratum.

In wet periods only the surface layer of this soil is wet. Because of the sodium content and very slow permeability, the subsoil generally remains dry. The root zone is only about 7 inches thick. Runoff is slow. Water stands on the surface for a few days after heavy rains. During the drier periods in summer and fall, the supply of moisture generally is not adequate for cultivated crops and pasture plants.

About 30 percent of the acreage has been developed for urban use, and the rest is in pasture and hay.

Because of the sodium content, which restricts the root zone, this soil is better suited to shallow-rooted grasses and legumes than to cultivated crops. (Capability unit IIIs–1; woodland suitability group 5; wildlife suitability group 2)

Verdun-Deerford silt loams (Ve).—This complex occurs in small areas scattered throughout the parish. About 65 percent of the acreage is Verdun silt loam, and 35 percent is Deerford silt loam.

The Verdun soil has a grayish-brown or brown, friable to firm surface layer about 10 inches thick. The subsoil is yellowish-brown and light olive-brown silty clay loam that is mottled with shades of brown and has dark-colored clay films. The reaction is medium acid to moderately alkaline in the surface layer and moderately alkaline in the subsoil.

The Deerford soil has a grayish-brown or brown, friable to firm surface layer, about 10 inches thick, and a subsoil of brown silty clay loam tongued with gray silt. The reaction is medium acid to very strongly acid to a depth of about 18 inches and neutral to moderately alkaline below that depth.

The soils of this complex generally are in poor tilth. They are low in nitrogen, phosphorus, and potassium. A considerable amount of sodium occurs throughout the subsoil of the Verdun soil and in the lower part of the Deerford subsoil. This sodium restricts the growth of roots and causes the subsoil in the Verdun soil to remain dry even in wet periods.

About 48 percent of the acreage is used for pasture and hay, nearly 30 percent has been developed for urban use, 20 percent is in mixed hardwood forest, and a small acreage is cultivated.

Because these soils have a restricted root zone, they are better suited to pasture and hay than to most cultivated crops. (Capability unit IIIs–1; woodland suitability group 5; wildlife suitability group 2)

Verdun-Fred silt loams (Vf).—This complex occurs in small areas throughout the parish. About 60 percent of the acreage consists of Verdun silt loam, which is somewhat poorly drained, and 30 percent consists of Fred silt loam, which is moderately well drained.

The Verdun soil has a grayish-brown or brown, friable to firm surface layer about 7 inches thick. The subsoil is yellowish-brown and light olive-brown silty clay loam with dark-colored ped coatings. The reaction is medium acid to moderately alkaline in the surface layer and moderately alkaline in the subsoil.

The Fred soil has a dark grayish-brown or brown surface layer about 10 inches thick. The subsoil, to a depth of 24 inches, is dark yellowish-brown or brown, firm to friable silty clay loam with dark-colored clay films. Beneath this layer is brownish, friable silt loam. The reaction is medium acid to moderately alkaline in the surface layer and neutral to moderately alkaline in the subsoil.

Included in the areas mapped are small areas of Deerford and Olivier soils.

The soils of this complex normally have a few lime concretions between depths of 20 and 36 inches. They are low in nitrogen, phosphorus, and potassium. The subsoil of the Verdun soil has a high content of sodium, which restricts plant roots.

Runoff is slow. Permeability is very slow in the Verdun soil and moderately slow in the Fred soil. Water stands in some places for a few days after heavy rains. During summer and fall, the supply of moisture in the Verdun soil generally is not adequate for cultivated crops and pasture plants.

About 65 percent of the acreage has been developed for urban use, and 35 percent is used for pasture and hay.

These soils are better suited to pasture and hay than to cultivated crops. (Capability unit IIIs–1; woodland suitability group 5; wildlife suitability group 2)

Waverly Series

The Waverly series consists of poorly drained, slowly permeable, acid soils that formed in silty alluvium. The surface layer of these soils is grayish-brown silt loam, and the underlying material is silt loam that is brownish gray or gray mottled with brown.

These are nearly level soils on the flood plain of the Amite River, the Comite River, and small streams. Most areas are subject to floods. Waverly soils commonly adjoin Falaya, Cascilla, and Ochlockonee soils. They are more poorly drained than these associated soils. They are similar to Cascilla and Falaya soils, but they contain less sand than Ochlockonee soils.

Most areas of Waverly soils are in mixed hardwood forest. Only a very small acreage is used for pasture.

Representative profile of Waverly silt loam, in a wooded area located 1.5 miles northwest of the Amite River bridge on the Hammond Highway, in the south-central part of sec. 50, T. 6 S., R. 2 E.

A11—0 to 3 inches, dark grayish-brown (10YR 4/2) silt loam; moderate, medium, granular structure; friable; very strongly acid; clear, smooth boundary.

A12—3 to 7 inches, grayish-brown (10YR 5/2) silt loam with pale-brown (10YR 6/3) mottles; weak, medium, granular structure; friable; few brown and black concretions; very strongly acid; gradual, smooth boundary.

AC—7 to 10 inches, light brownish-gray (2.5Y 6/2) silt loam with common, fine, faint, brown (10YR 5/3) mottles; massive (structureless) to weak, medium, subangular blocky structure; friable; few fine pores; few brown and black concretions; very strongly acid; gradual, smooth boundary.

C1g—10 to 14 inches, light brownish-gray (2.5Y 6/2) silt loam with few, fine, distinct, brown (10YR 5/3) mottles; massive; friable; few fine pores; few brown and black concretions; very strongly acid; clear, smooth boundary.

C2g—14 to 20 inches, gray (10YR 6/1) silt loam with common, fine, distinct, yellowish-brown (10YR 5/4) mottles; massive; friable; few, soft, brown and black concretions; strongly acid; clear, smooth boundary.

C3g—20 to 30 inches, gray (10YR 6/1) silt loam with common, fine, distinct, brown (10YR 5/3) mottles; massive; friable; numerous vertical veins, pockets, and strata of light-gray silt; few, soft, brown and black concretions; strongly acid; gradual, smooth boundary.

C4g—30 to 49 inches, gray (10YR 6/1) silt loam with common, fine, distinct, brown mottles; massive (structureless) to weak, medium, prismatic structure; friable; numerous thin strata and root channel fillings of light-gray silt; few, soft, black concretions; slightly acid.

The A1 horizon ranges from very dark grayish brown to grayish brown in color and from 2 to 8 inches in thickness. The AC horizon ranges from 2 to 5 inches in thickness, but it is missing in some places. The color of the C horizon ranges from light brownish gray to gray, and as much as 10 percent is mottled with brown. The reaction ranges from slightly acid to very strongly acid.

Waverly-Falaya silt loams, overflow (Wf).—These soils are mainly on flats or in depressions on the flood plain of most of the streams in the parish except the Mississippi River. They are subject to frequent floods. About 60 percent of the acreage consists of Waverly silt loam, which is poorly drained, and 30 percent consists of Falaya silt loam, which is somewhat poorly drained.

The Waverly soil has a brown or grayish-brown surface layer 2 to 6 inches thick. The underlying material is gray silt loam with brown mottles.

The Falaya soil has a brown or grayish-brown surface layer about 14 inches thick. The underlying material is gray silt loam with brown mottles.

Included in the areas mapped are small areas of Zachary and Calhoun soils.

The soils of this complex are strongly acid to very strongly acid. Runoff is slow. Permeability is moderate in the Falaya soil and moderately slow in the Waverly soil. The available water capacity is high.

Most of the acreage is in mixed hardwood forest. Only about 7 percent is used for pasture.

These soils are suited to most of the pasture plants commonly grown in the parish, unless flooding is severe. They are not suited to cultivated crops, because they are likely to be flooded. (Capability unit Vw-1; woodland suitability group 4; wildlife suitability group 4)

Zachary Series

The Zachary series consists of poorly drained, slowly permeable, acid soils that formed in silty alluvium. These soils have a thick surface layer of grayish-brown to gray silt loam mottled with brown. The subsoil is gray or light olive-gray silty clay loam mottled with brown.

Zachary soils occur on broad flats and in depressions throughout the parish. They commonly adjoin Olivier, Loring, Deerford, Verdun, Fred, and Calhoun soils. Zachary soils are similar to Calhoun soils but have a thicker surface layer. They are more poorly drained than Olivier, Loring, Deerford, Verdun, and Fred soils.

Most areas of Zachary soils are in mixed hardwood forest. Most areas are subject to overflow and have little potential as cropland, but a small acreage is used for pasture.

Representative profile of Zachary silt loam, in a forested area located in the NE¼ sec. 73, T. 5 S., R. 1 W.

A1—0 to 2 inches, grayish-brown (10YR 5/2) silt loam; moderate, medium, granular structure; friable; abrupt, smooth boundary.

A21g—2 to 7 inches, light brownish-gray (10YR 6/2) silt loam; weak, medium, granular structure; friable; many dark-brown and yellowish-brown coatings in root channels; very strongly acid; gradual, smooth boundary.

A22g—7 to 18 inches, gray (10YR 6/1) silt loam with many, fine, distinct, light yellowish-brown (10YR 6/4) and yellowish-brown (10YR 5/4–5/8) mottles; massive; friable; many fine pores; dark-brown and dark yellowish-brown coatings in root channels; very strongly acid; gradual, smooth boundary.

A23g—18 to 24 inches, gray (10YR 6/1) silt loam with many, fine, distinct mottles and root-channel coatings of yellowish brown (10YR 5/6) and dark brown (7.5YR 4/4); massive; friable; many pores; strongly acid; abrupt, smooth boundary.

A24g—24 to 28 inches, gray (10YR 6/1) silt loam; moderate, medium, platy structure; friable; few yellowish-brown and dark-brown coatings in root channels; very strongly acid; abrupt, irregular boundary.

B21tg—28 to 34 inches, gray (10YR 6/1) silty clay loam with many, fine, distinct mottles and root-channel coatings of pale brown (10YR 6/3), yellowish brown (10YR 5/6), and dark brown (7.5YR 4/4); moderate, medium, prismatic structure; slightly plastic; almost continuous, thin skins of gray clay on vertical and horizontal faces of peds; few thin tongues of gray silt loam in uppermost few inches; few fine pores; strongly acid; diffuse, irregular boundary.

B22tg—34 to 43 inches, light olive-gray (5Y 6/2) silty clay loam with few mottles or root-channel coatings of yellowish brown (10YR 5/4) and dark brown (7.5YR 4/4); moderate, medium, prismatic structure; slightly plastic; almost continuous, thin coatings of gray material on prisms; gray silt loam in few krotovinas or vertical veins; very strongly acid; gradual, smooth boundary.

B23tg—43 to 50 inches, light olive-gray (5Y 6/2) silty clay loam with few, fine, distinct, yellowish-brown (10YR 5/4) and pale-brown (10YR 6/3) mottles; moderate, medium, prismatic structure; slightly plastic; thin, patchy films of gray and dark-gray clay and thin coatings of gray silt; few vertical veins of gray and dark-gray silt loam that are coarsely porous; few fine pores; few brown and black concretions; strongly acid at a depth of 50 inches.

B3tg—50 to 60 inches, light olive-gray (5Y 6/2) silty clay loam with few, fine, distinct, yellowish-brown (10YR 5/4) and pale-brown (10YR 6/3) mottles; few vertical veins of gray and dark-gray silt loam; slightly plastic; strongly acid.

The A1 horizon ranges from 1 to 4 inches in thickness and from grayish brown to very dark grayish brown in color. The A2 horizon is 24 to 30 inches thick. It is free of mottles in some places and is as much as 10 percent mottled in others. The Bt horizon commonly is gray to light olive gray in color and has a few brown and olive mottles. The reaction is strongly acid to very strongly acid throughout.

Zachary silt loam (Za).—This soil is on flats, in depressions, and along drainageways throughout the parish. It is flooded frequently.

The surface layer is grayish-brown to gray, friable silt loam 24 to 30 inches thick. The subsoil is gray or light olive-gray silty clay loam 1 to 3 feet thick. Both these layers are mottled with brown.

Included in the areas mapped are small areas of Frost, Calhoun, Waverly, Fountain, and Bonn soils.

This Zachary soil is strongly acid to very strongly acid. Runoff is very slow, and permeability is slow. Most of the acreage is in mixed hardwood forest, but about 15 percent is in pasture.

This soil is suited to most of the pasture plants commonly grown in the parish, unless flooding is severe. It is not suited to cultivated crops. (Capability unit Vw-1; woodland suitability group 4; wildlife suitability group 4)

Use and Management of the Soils

This section discusses management of the soils of East Baton Rouge Parish as cropland, as pasture, as woodland, and as wildlife habitat, and the uses of the soils for engineering and other nonfarm purposes.

General Principles of Management for Crops and Pasture

General principles of soil management widely applicable in East Baton Rouge Parish are discussed in the following paragraphs. Specific recommendations cannot be given, because management practices change as new information becomes available. Assistance in detailed planning can be obtained from the local representative of the Soil Conservation Service or from representatives of the Extension Service or the Louisiana Agricultural Experiment Station.

Fertilization and liming.—The soils of East Baton Rouge Parish range from very strongly acid to moderately alkaline in reaction, and they generally are low in available nitrogen. Sharkey, Tunica, Commerce, Crevasse, and Mhoon soils are alkaline soils that normally need only nitrogen fertilizer if used for nonleguminous crops. Lafe, Deerford, Fountain, Fred, Essen, and some of the Jeanerette soils are also alkaline, but mainly in the subsoil. Some areas of these soils need lime, and almost all need phosphorus, potassium, and nitrogen. The rest of the soils in this parish are acid and normally need to be limed and to be fertilized with phosphorus, potassium, and nitrogen if they are used for nonleguminous crops. The amounts of fertilizer and lime to be applied should be determined by laboratory analysis of soil samples. Each sample should consist of a single soil type and should represent an area of no more than 10 acres. Information and instructions on collecting and testing of soil samples can be obtained from local agricultural agencies.

Maintaining organic matter.—Most of the soils in this parish are somewhat low in organic-matter content. Organic matter is an important source of nitrogen, and it also helps to increase the rate of water intake, reduce surface crusting, and improve tilth. It can be supplied by leaving plant residues on the soils, by growing plants that have an extensive root system, by including perennial grasses and legumes in the cropping system, and by adding barnyard manure, commercial fertilizer, and lime to promote plant growth.

Tillage.—Soils should be tilled only enough to prepare a seedbed and to control weeds. Excessive tillage destroys the soil structure. Some of the fine-textured soils in the parish tend to puddle and clod. A compact layer, or plowpan, forms in the medium-textured soils when they are cultivated. Deep plowing or chiseling helps to break up this pan. The soils can be protected from beating rains by the use of tillage implements that stir the surface and leave crop residues on top. These residues help to slow runoff, increase infiltration, and control erosion.

Drainage.—Many of the soils in this parish need surface drainage to make them more suitable for crops. Tile drainage generally is not suitable, because many of the soils are slowly permeable. The drainage system most commonly used is one consisting of open ditches and laterals (fig. 4). The success of such a system depends on the availability of outlets, and many parts of the parish lack adequate outlets. The most satisfactory systems combine row drains and row arrangement with field ditches and laterals. The systems of field and farm laterals existing in fields once used for sugarcane can be altered and reconstructed for drainage of pasture and fields used for cultivated crops. Sharkey clay, Tunica clay, and other nearly level, very slowly permeable soils require intensive drainage systems to make them suitable for crops or pasture. Commerce loam and other medium-textured, more permeable soils can be used for crops or pasture with less intensive artificial drainage.

Control of erosion.—Some of the soils in this parish are subject to sheet erosion and gully erosion if they are clean tilled. Control of runoff is needed to prevent loss of soil material. Commonly used practices include terracing, contour cultivation, and the use of wide strips of close-growing plants. The terraces should be so constructed as to divert runoff from fields into natural drainageways, which should be kept in sod or other close-growing plants.

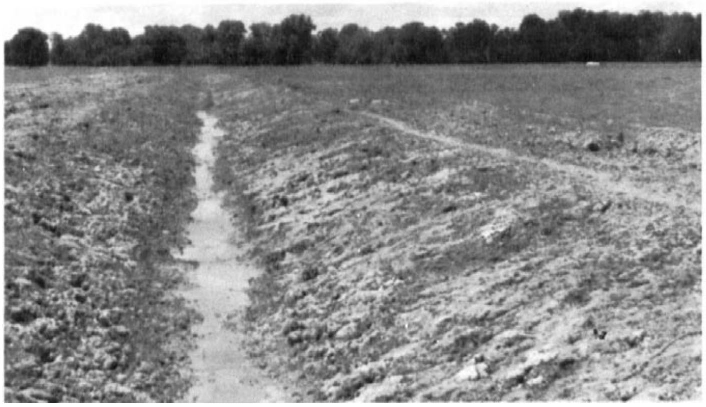

Figure 4.—**Lateral ditch for removing excess water from an area of Mhoon silty clay loam.**

Cropping systems.—A cropping system suitable for use in this parish consists of a legume to supply nitrogen, a cultivated crop to aid in weed control, a deep-rooted crop to utilize plant nutrients in the substratum and maintain permeability, and a close-growing crop to supply organic matter. The soils should be covered as much of the year as possible to prevent erosion.

Capability Groups of Soils

Capability classification is the grouping of soils to show, in a general way, their suitability for most kinds of farming. It is a practical classification based on limitations of the soils, the risk of damage when they are used, and the way they respond to treatment. The classification does not apply to horticultural crops or to rice and other crops that have special requirements. The soils are classified according to degree and kind of permanent limitation but without consideration of major and generally expensive landforming that would change the slope, depth, or other characteristics of the soils, and without consideration of possible but unlikely major reclamation projects.

In the capability system, all the soils are grouped at three levels: the capability class, the subclass, and the unit. These are discussed in the following paragraphs.

Capability Classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use, defined as follows:

Class I. Soils have few limitations that restrict their use.

Class II. Soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.

Class III. Soils have severe limitations that reduce the choice of plants, or require special conservation practices, or both.

Class IV. Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.

Class V. Soils are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover.

Class VI. Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife food and cover.

Class VII. Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to grazing, woodland, or wildlife.

Class VIII. Soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, or water supply, or to esthetic purposes.

The soils in East Baton Rouge Parish are in classes I, II, III, V, and VI.

CAPABILITY SUBCLASSES are soil groups within one class; they are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or alkaline; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses, because the soils of this class have few limitations. Class V can contain, at the most, only the subclasses indicated by *w*, *s*, and *c*, because the soils in class V are subject to little or no erosion, though they have other limitations that restrict their use.

CAPABILITY UNITS are soil groups within the subclasses. All the soils in one capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to be similar in productivity and other responses to management. Thus, the capability unit is a convenient grouping for making many statements about management of soils. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe–1 or IIIw–2. Thus, in one symbol, the Roman numeral designates the capability class, or degree of limitation; the small letter indicates the subclass, or kind of limitation, as defined in the foregoing paragraph; and the Arabic numeral specifically identifies the capability unit within each subclass.

The capability units in East Baton Rouge Parish are discussed in the following paragraphs. The names of soil series represented are mentioned in the description of each unit, but this does not mean that all the soils of a given series are in the unit. The capability unit designation for each soil in the parish can be found in the "Guide to Mapping Units" at the back of the soil survey.

Capability unit I–1

The only soil in this unit is Commerce loam, a level or nearly level, somewhat poorly drained, moderately slowly permeable soil.

This soil makes up almost 1 percent of the parish. It is excellent for farming, but only a little of it is now cultivated. Most areas are used for pasture and hay. Well-suited cultivated crops are cotton, corn, sugarcane, grain sorghum, oats, soybeans, and truck crops. Well-suited pasture plants are Coastal bermudagrass, common bermudagrass, dallisgrass, Pensacola bahiagrass, ryegrass, tall fescue, johnsongrass, white clover, red clover, sudangrass, millet, and southern wild winter peas. Hay generally can be harvested from pastures during periods of peak growth.

This soil is high in natural fertility. It is friable and fairly easy to keep in good tilth. A plowpan tends to form in cultivated areas, but it can be broken by chiseling or deep plowing. Drainage may be needed, especially in areas used for sugarcane. Land grading for drainage and land leveling for irrigation improve surface drainage and increase the efficiency of farm equipment, especially multiple-row equipment. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants. This soil is low in content of nitrogen and high in content of phosphorus and potassium. The response to nitrogen fertilizer is good.

Capability unit I–2

This unit consists of level or nearly level, moderately well drained and well drained, moderately permeable to moderately slowly permeable soils of the Dexter, Fred, Freeland, Loring, and Memphis series.

These soils make up about 2.5 percent of the parish. About 65 percent of the acreage is used for pasture, and a small part is cultivated. Well-suited cultivated crops are corn, oats, soybeans, cotton, sweetpotatoes, and truck crops. Well-suited pasture plants are common bermudagrass, Coastal bermudagrass, Pensacola bahiagrass, carpetgrass, ryegrass, millet, dallisgrass, southern wild winter peas, crimson clover, and white clover (fig. 5).

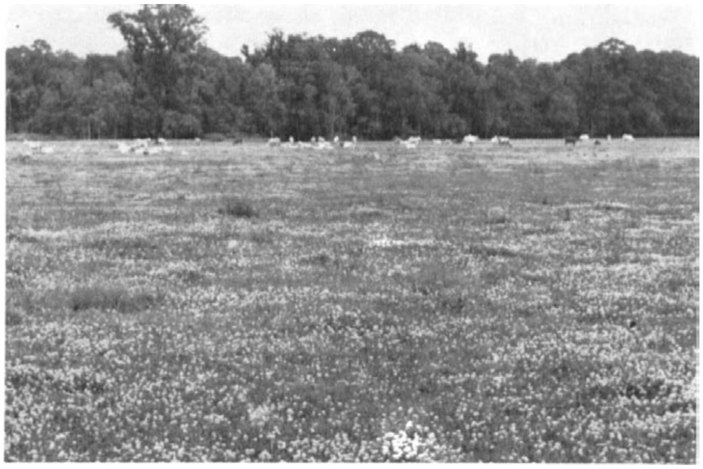

***Figure 5.*—White clover on Memphis silt loam, which is in capability unit I–2.**

The soils in this unit are moderate in natural fertility. They are friable and fairly easy to keep in good tilth, but they are likely to crust if clean tilled. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. The response to fertilizer is good, and all except Fred soils benefit from lime. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants.

Capability unit IIe-1

This unit consists of nearly level, moderately well drained and well drained, moderately permeable to moderately slowly permeable soils of the Cahaba, Dexter, Freeland, Loring, Memphis, and Providence series. The slope range is 1 to 3 percent. Erosion is a moderate hazard.

These soils make up about 6 percent of the parish. About half the acreage is used for cultivated crops and pasture. Well-suited cultivated crops are corn, oats, soybeans, cotton, sweetpotatoes, and truck crops. Well-suited pasture plants are common bermudagrass, Coastal bermudagrass, Pensacola bahiagrass, carpetgrass, dallisgrass, ryegrass, millet, crimson clover, white clover, and southern wild winter peas.

The soils in this unit are low to moderate in natural fertility. They are friable and fairly easy to keep in good tilth, but they are likely to crust if clean tilled. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. Contour crop rows help to slow runoff and control erosion. Crops respond well to fertilizer, and lime generally is needed. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants.

Capability unit IIw-1

This unit consists of level or nearly level, poorly drained, moderately slowly permeable soils of the Jeanerette series.

These soils make up about 2.5 percent of the parish. About half the acreage has been developed for urban use. Only a small acreage is used for crops. Well-suited cultivated crops are corn, oats, soybeans, and truck crops. Well-suited pasture plants are common bermudagrass, Coastal bermudagrass, sudangrass, dallisgrass, carpetgrass, Pensacola bahiagrass, tall fescue, ryegrass, white clover, and southern wild winter peas.

The soils in this unit are moderate in natural fertility. They are fairly easy to keep in good tilth. They generally are wet in winter and spring, and some areas are subject to floods. Drainage generally is needed to remove excess water. Flood control may be needed in some areas. Crops respond well to nitrogen and, generally, to phosphorus and potassium. Lime normally is not needed. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants.

Capability unit IIw-2

This unit consists of Olivier silt loam, 0 to 1 percent slopes, a somewhat poorly drained, slowly permeable soil.

This soil makes up about 14 percent of the parish. About 25 percent of the acreage is used for pasture, and only a small part is used for cultivated crops. Moderately well suited cultivated crops are corn, oats, soybeans, cotton, sweetpotatoes, and truck crops. Well-suited pasture plants are common bermudagrass, Coastal bermudagrass, Pensacola bahiagrass, carpetgrass, ryegrass, dallisgrass, millet, white clover, and southern wild winter peas.

This soil is low in natural fertility. It is fairly easy to keep in good tilth, but it is likely to crust if clean tilled. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. The response to fertilizer is fairly good, and lime generally is needed. This soil generally is wet for much of the winter and spring and is likely to need drainage at those times. During dry periods in summer and fall, cultivated crops and pasture plants are sometimes affected by shortage of moisture.

Capability unit IIw-3

This unit consists of nearly level, somewhat poorly drained, very slowly permeable to slowly permeable soils of the Deerford and Olivier series. The slope range is 1 to 3 percent. Erosion is a slight hazard if the soils are left bare.

These soils make up about 7 percent of the parish. About 35 percent of the acreage is used for pasture, and a small part is cultivated. Suitable crops are corn, oats, soybeans, cotton, sweetpotatoes, and truck crops. Well-suited pasture plants are common bermudagrass, Coastal bermudagrass, Pensacola bahiagrass, dallisgrass, ryegrass, carpetgrass, millet, white clover, and southern wild winter peas.

These soils are low in natural fertility. They are fairly easy to keep in good tilth, but they are likely to crust if clean tilled. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. Contour crop rows help to slow runoff and control erosion. The response to fertilizer is only fair, and lime generally is needed. These soils generally are wet for much of the winter and spring, and the wetness sometimes necessitates late planting of crops. During dry periods in summer and fall, cultivated crops and pasture plants are sometimes affected by shortage of moisture.

Capability unit IIw-4

This unit consists of level or nearly level, somewhat poorly drained, very slowly permeable to moderately slowly permeable soils of the Deerford, Essen, Fred, and Olivier series. Fred soils are better drained than the others, but they are intricately mixed with Deerford soils and cannot be managed separately.

These soils make up about 5 percent of the parish. About 35 percent of the acreage is used for pasture, and a small part is cultivated. Suitable cultivated crops are corn, oats, soybeans, cotton, and truck crops. Suitable pasture plants are common bermudagrass, Coastal bermudagrass, millet, carpetgrass, dallisgrass, ryegrass, white clover, and southern wild winter peas.

These soils are low in natural fertility. They are somewhat difficult to keep in good tilth, and they are likely to crust if clean tilled. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. The response to fertilizer is fair. Deerford and Olivier soils need lime, but Essen and Fred soils generally do not. These soils generally are wet for much of the winter and spring and are likely to need drainage at those times. During dry periods in summer and fall, cultivated crops and pasture plants are sometimes affected by shortage of moisture.

Capability unit IIw-5

This unit consists of Mhoon silty clay loam, a nearly level, slowly permeable, poorly drained soil.

This soil makes up less than 2 percent of the parish. Most of the acreage is used for pasture, but a small part is cultivated. Well-suited cultivated crops are sugarcane, corn, grain sorghum, oats, soybeans, cotton, and truck crops. Well-suited pasture plants are common bermudagrass, Coastal bermudagrass, sudangrass, johnsongrass, dallisgrass, ryegrass, tall fescue, white clover, and southern wild winter peas. Hay can generally be harvested from pastures during periods of peak growth.

This soil is high in natural fertility. It is fairly easy to work, but it tends to become cloddy when worked. It is wet for long periods in winter and spring and generally needs drainage at those times. Land grading for drainage and land leveling for irrigation improve surface drainage and increase the efficiency of farm equipment, especially multiple-row equipment. This soil responds well to nitrogen fertilizer, but it generally does not need phosphorus, potassium, and lime. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants.

Capability unit IIIe-1

This unit consists of gently sloping, moderately well drained and well drained, moderately permeable to moderately slowly permeable soils of the Loring and Memphis series.

The soils in this group make up less than 1 percent of the parish. About half the acreage is used for cultivated crops and pasture. Well-suited crops are corn, cotton, oats, soybeans, sweetpotatoes, and truck crops. Well-suited pasture plants are common bermudagrass, Coastal bermudagrass, Pensacola bahiagrass, ryegrass, dallisgrass, millet, white clover, crimson clover, and southern wild winter peas.

These soils are low to moderate in natural fertility. They are fairly easy to keep in good tilth, but they are likely to crust if clean tilled. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. Terracing, stripcropping, and other conservation practices help to slow runoff and control erosion. These soils respond well to fertilizer and generally need to be limed. In most years the supply of moisture generally is adequate for cultivated crops and pasture plants.

Capability unit IIIw-1

This unit consists of level to undulating, poorly drained and somewhat poorly drained, slowly permeable to very slowly permeable soils of the Amagon, Dundee, Sharkey, and Tensas series. Some of the areas of Dundee and Tensas soils have been smoothed. Dundee soils are better drained than the others, but they are intricately mixed with the other soils and cannot be managed separately. Many areas have ridges and swales and irregular slopes of as much as 3 percent. Some areas are subject to floods.

The soils in this group make up about 1 percent of the parish. About 30 percent of the acreage is used for pasture and hay, and a small part is used for cultivated crops. Suitable crops are corn, sugarcane, soybeans, oats, cotton, and grain sorghum. Suitable pasture plants are common bermudagrass, ryegrass, sudangrass, dallisgrass, johnsongrass, tall fescue, white clover, and southern wild winter peas. Hay can generally be harvested from pastures during periods of peak growth.

These soils are moderate in natural fertility. Cultivation of row crops is difficult because of the irregular slopes, the swales, and differences in surface texture. Good tilth is somewhat difficult to maintain. These soils generally are wet during winter and spring. Drainage is needed to remove excess water, especially from the swales, and flood control is needed in some areas. Land grading for drainage and land leveling for irrigation improve surface drainage, reduce erosion, and increase the efficiency of farm equipment, especially multiple-row equipment. During dry periods in summer and fall, cultivated crops and pasture plants are sometimes affected by shortage of moisture.

These soils are low in content of nitrogen and moderate in content of phosphorus and potassium. They respond well to nitrogen fertilizer and, in some places, to phosphorus and potassium. Lime may be needed.

Capability unit IIIw-2

This unit consists of level to undulating, poorly drained, very slowly permeable soils of the Mhoon, Sharkey, and Tunica series. Some areas of Sharkey and Tunica soils have ridges and swales and irregular slopes of as much as 3 percent.

These soils make up about 3 percent of the parish. About 40 percent of the acreage is used for pasture and hay, and a small part is cultivated. Moderately suitable cultivated crops are sugarcane, soybeans, cotton, grain sorghum, and oats. Corn is not so well suited. Suitable pasture plants are common bermudagrass, dallisgrass, johnsongrass, tall fescue, ryegrass, white clover, and southern wild winter peas. Hay generally can be harvested from pasture during periods of peak growth.

These soils are high in natural fertility. Cultivation of row crops is somewhat difficult because of the short, irregular slopes and the swales. Maintaining good tilth is difficult. These soils can be worked within only a narrow range of moisture content. They crack badly as they dry, seal over when wet, and become cloddy when worked. Preparing a seedbed is difficult. These soils generally are saturated for long periods in winter and spring, and some areas are subject to floods. Drainage is needed in most areas, and flood control in some. Land grading for drainage and land leveling for irrigation improve surface drainage and increase the efficiency of farm equipment, especially multiple-row equipment. During dry periods in summer and fall, cultivated crops and pasture plants are sometimes affected by shortage of moisture.

These soils are low in content of nitrogen and moderate to high in content of phosphorus and potassium. They respond well to nitrogen fertilizer.

Capability unit IIIw-3

This unit consists of level or nearly level, poorly drained, moderately slowly permeable to very slowly permeable soils of the Bonn, Calhoun, and Fountain series. Some areas are flooded occasionally for short periods.

The soils in this group make up about 1 percent of the parish. About 60 percent of the acreage is used for pasture, and a small part is cultivated. Well-suited pasture plants are common bermudagrass, Pensacola bahiagrass, ryegrass, millet, white clover, and southern wild winter peas. Corn, soybeans, oats, and truck crops are somewhat poorly suited.

These soils are low in natural fertility. They are fairly difficult to keep in good tilth, and they are likely to crust if clean tilled. They generally are wet for long periods in winter and spring and are somewhat dry in summer and fall. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. Drainage and possibly flood control are needed if cultivated crops and pasture plants are grown. The response to fertilizer is fairly good. Lime generally is not needed on Bonn and Fountain soils.

Capability unit IIIw-4

This unit consists of level or nearly level, poorly drained, slowly permeable to very slowly permeable soils of the Calhoun, Frost, and Jeanerette series and areas of Made land. Some areas of this unit are subject to floods.

The soils in this group make up about 26 percent of the parish. About 25 percent of the acreage is used for pasture, and a small part is cultivated. Well-suited pasture plants are common bermudagrass, Pensacola bahiagrass, ryegrass, millet, white clover, and southern wild winter peas. Corn, soybeans, cotton, sweetpotatoes, oats, and truck crops are somewhat poorly suited.

These soils are mostly low in natural fertility; Jeanerette soils are more fertile than the others. All are somewhat difficult to keep in good tilth, and they are likely to crust if clean tilled. They generally are wet for long periods in winter and spring, and somewhat dry in summer and fall. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. Drainage and possibly flood control are needed. The soils respond fairly well to fertilizer, and they generally need lime.

Capability unit IIIw-5

This unit consists of level or nearly level, somewhat poorly drained, very slowly permeable soils of the Olivier and Springfield series. Olivier soils are slowly permeable and are slightly better drained than Springfield soils, but the two are intricately mixed and cannot be managed separately.

The soils in this group make up about 1 percent of the parish. About 25 percent of the acreage is used for pasture, and a small part is cultivated. Well-suited pasture plants are common bermudagrass, dallisgrass, ryegrass, millet, Pensacola bahiagrass, carpetgrass, white clover, and southern wild winter peas. Corn, soybeans, oats, and truck crops are somewhat poorly suited.

These soils are low in natural fertility. They are somewhat difficult to keep in good tilth, and they are likely to crust if clean tilled. Tilth can be improved and the tendency to crust reduced by turning under crop residues and green-manure crops. The response to fertilizer is fairly good, and lime generally is needed. These soils generally are wet for much of the winter and spring and are likely to need drainage at those times. During dry periods in summer and fall, cultivated crops and pasture plants are sometimes affected by shortage of moisture.

Capability unit IIIs-1

This unit consists of level or nearly level, somewhat poorly drained to moderately well drained, very slowly permeable soils of the Deerford, Essen, Fred, Lafe, and Verdun series. Lafe and Verdun soils have a high content of sodium, which restricts the root zone. Deerford, Essen, and Fred soils have a thicker root zone, but they are intricately mixed with Lafe or Verdun soils and cannot be managed separately. Wetness also is a hazard.

The soils in this group make up about 5 percent of the parish. About 65 percent of the acreage is used for pasture, and a small part is cultivated. Moderately suitable pasture plants are bermudagrass, carpetgrass, dallisgrass, Pensacola bahiagrass, white clover, and southern wild winter peas. Corn, soybeans, oats, and truck crops are poorly suited.

These soils are low in natural fertility. They are difficult to keep in good tilth, and they tend to crust if clean tilled. The high sodium content of Lafe and Verdun soils makes it difficult for roots to obtain water. The response to fertilizer is only fair. Lime generally is not needed. These soils generally are wet for much of the winter and spring. During dry periods in summer and fall, cultivated crops and pasture plants on all except Fred and Essen soils generally are affected by shortage of moisture.

Capability unit Vw-1

This unit consists of level to undulating, poorly drained to well-drained soils of the Cascilla; Falaya; Jeanerette, acid variant; Ochlockonee; Waverly; and Zachary series. These soils are flooded annually.

The soils in this group make up about 14 percent of the parish. About 10 percent of the acreage is used for pasture, a few small fields least likely to be flooded are used for truck crops. Common bermudagrass, which generally is tolerant of excess water, is a suitable pasture plant. Where flooding is least severe, it is possible to grow carpetgrass, dallisgrass, white clover, common lespedeza, and southern wild winter peas. The response to fertilizer is good, and lime generally is needed.

Capability unit Vw-2

This unit consists of frequently flooded soils of the Crevasse, Mhoon, Sharkey, and Tunica series and areas of Loamy alluvial land. These soils occur between the Mississippi River and the levees and in sump areas on the protected side of the levees.

The soils in this group make up about 5.5 percent of the parish. They are not readily accessible with farm equipment and have not been developed for pasture. Common bermudagrass can be grown in areas that are not too severely flooded, and white clover, tall fescue, and southern wild winter peas can be grown in areas that are least severely flooded.

Capability unit VIe-1

This unit consists of Terrace escarpments, which are between the terraces and the major flood plains. The material is mainly silt or silt loam, but it ranges to clay. The slopes are mostly steep and dissected.

This unit makes up about 2.5 percent of the parish. Only a small acreage is used for pasture, and none is used for cultivated crops. Suitable pasture plants are common bermudagrass, Coastal bermudagrass, Pensacola bahiagrass, millet, crimson clover, and southern wild winter peas. Management is difficult because of the slope and severe hazard of erosion.

Estimated Yields

Table 2 lists, for each soil and land type in the parish, the estimated average yields per acre of the principal crops under a high level of management. The estimates represent an average of the yields that can be obtained over a 10-year period, with normal rainfall and without irrigation. They are based largely on field observations made during the progress of the survey and on consultation with farmers and other agricultural workers.

Under a high level of management, it is assumed that all the latest technological developments in farming are followed; seedbeds are prepared properly; fertilizer and lime are applied in amounts determined by soil tests; insects, diseases, and weeds are controlled; suitable varieties of seeds are planted; and if needed, flood control, erosion control, and other measures are used to conserve soil and water.

TABLE 2.—*Estimated average acre yields of principal crops under a high level of management*

[Absence of figure indicates that the soil generally is not suited to the crop or is not used for the crop]

Mapping unit	Cotton	Corn	Oats	Soybeans	Sugarcane	Sweetpotatoes	Pasture plants			
							Common bermudagrass	Coastal bermudagrass	Pensacola bahiagrass	Tall fescue
	Lb. of lint	*Bu.*	*Bu.*	*Bu.*	*Tons*	*Bu.*	*Animal-unit-months* [1]	*Animal-unit-months* [1]	*Animal-unit-months* [1]	*Animal-unit-months* [1]
Cahaba sandy loam, 1 to 3 percent slopes	475	65	55	26	------	225	6. 5	10. 5	6. 5	------
Calhoun silt loam	375	45	45	22	------	215	5. 5	------	6. 0	------
Calhoun-Bonn and Fountain silt loams:										
Calhoun soil	375	45	45	22	------	------	5. 5	------	6. 0	------
Bonn soil	300	25	25	18	------	------	4. 0	------	4. 0	------
Fountain soil	400	50	50	24	------	------	6. 0	------	6. 0	------
Cascilla silt loam, undulating, overflow	----	-----	----	-----	------	------	7. 8	------	------	------
Commerce loam	800	90	70	38	32	250	8. 5	12. 0	8. 0	9. 5
Crevasse soils, overflow	----	-----	----	-----	------	------	4. 0	------	------	------
Deerford silt loam	425	55	50	26	------	------	5. 5	7. 5	5. 5	------
Deerford-Olivier silt loams, 0 to 1 percent slopes:										
Deerford soil	425	55	50	26	------	------	5. 5	7. 5	5. 5	------
Olivier soil	450	60	55	30	------	------	6. 5	9. 5	6. 5	------
Deerford-Olivier silt loams, 1 to 3 percent slopes:										
Deerford soil	400	50	50	25	------	------	5. 5	7. 5	5. 5	------
Olivier soil	450	60	55	28	------	------	6. 5	9. 5	6. 5	------
Deerford-Verdun silt loams:										
Deerford soil	425	55	50	25	------	------	5. 5	------	5. 5	------
Verdun soil	325	30	30	19	------	------	4. 5	------	5. 0	------
Dexter very fine sandy loam, 0 to 1 percent slopes	675	75	68	36	------	265	7. 0	11. 0	7. 0	------
Dexter very fine sandy loam, 1 to 3 percent slopes	650	70	65	33	------	255	7. 0	11. 0	7. 0	------
Dundee-Amagon complex, 0 to 1 percent slopes:										
Dundee soil	550	80	50	28	28	------	8. 0	------	------	9. 0
Amagon soil	400	50	40	24	24	------	6. 5	------	------	7. 5
Dundee-Amagon complex, undulating:										
Dundee soil	550	65	50	28	28	------	8. 0	------	------	9. 0
Amagon soil	375	50	35	22	22	------	6. 0	------	------	7. 0
Dundee-Tensas-Sharkey complex, undulating:										
Dundee soil	550	80	50	28	28	------	8. 0	------	------	9. 0
Tensas soil	400	60	45	26	23	------	7. 0	------	------	8. 0
Sharkey soil	425	65	45	28	23	------	7. 0	------	------	8. 5
Essen silt loam	550	65	60	32	------	------	6. 5	9. 5	6. 5	------
Essen and Lafe silt loams:										
Essen soil	550	65	60	32	------	------	6. 5	------	6. 5	------
Lafe soil	325	30	30	19	------	------	4. 5	------	4. 5	------
Fountain silt loam	450	55	50	25	------	------	5. 5	------	6. 0	------
Fountain and Bonn silt loams:										
Fountain soil	425	55	50	25	------	------	5. 5	------	6. 0	------
Bonn soil	300	25	25	18	------	------	4. 0	------	4. 0	------
Fred silt loam	650	70	65	36	------	------	6. 5	10. 0	7. 0	------
Fred-Deerford silt loams:										
Fred soil	650	70	65	32	------	------	6. 5	10. 0	7. 0	------
Deerford soil	425	55	50	25	------	------	5. 5	7. 5	5. 5	------
Freeland very fine sandy loam, 0 to 1 percent slopes	550	70	60	34	------	250	6. 0	10. 5	7. 0	------
Freeland very fine sandy loam, 1 to 3 percent slopes	525	68	58	30	------	250	6. 0	10. 0	6. 5	------
Frost silt loam	375	45	40	22	------	200	5. 5	------	6. 0	------
Jeanerette silt loam	700	80	70	36	30	------	7. 0	10. 5	7. 5	8. 5
Jeanerette-Frost silt loams:										
Jeanerette soil	675	75	65	34	------	------	7. 0	------	7. 5	------
Frost silt	375	45	35	22	------	------	5. 5	------	6. 0	------
Jeanerette silt loam, light-colored variant	700	80	70	36	30	------	7. 0	10. 5	7. 5	8. 5
Jeanerette, light-colored variant-Frost silt loams:										
Jeanerette soil	675	75	65	34	------	------	7. 0	------	7. 5	------
Frost soil	375	45	35	22	------	------	5. 5	------	6. 0	------

See footnote at end of table.

TABLE 2.—*Estimated average acre yields of principal crops under a high level of management*—Continued

Mapping unit	Cotton	Corn	Oats	Soybeans	Sugarcane	Sweetpotatoes	Pasture plants			
							Common bermudagrass	Coastal bermudagrass	Pensacola bahiagrass	Tall fescue
	Lb. of lint	*Bu.*	*Bu.*	*Bu.*	*Tons*	*Bu.*	*Animal-unit-months* [1]	*Animal-unit-months* [1]	*Animal-unit-months* [1]	*Animal-unit-months* [1]
Jeanerette silt loam, acid variant	----	----	----	----	----	----	4.0	----	----	----
Lafe silt loam	325	30	30	19	----	----	4.5	----	4.5	----
Loamy alluvial land and Mhoon soils, overflow	----	----	----	----	----	----	7.5	----	----	----
Loring silt loam, 0 to 1 percent slopes	550	65	60	34	----	250	6.5	10.0	7.0	----
Loring silt loam, 1 to 3 percent slopes	525	65	55	28	----	225	6.0	8.5	6.1	----
Loring silt loam, 3 to 5 percent slopes, eroded	500	60	53	26	----	210	6.0	8.0	6.0	----
Loring silt loam, 5 to 8 percent slopes, eroded	450	55	50	25	----	200	6.0	8.0	6.0	----
Made land	400	40	40	22	----	200	5.5	----	6.0	----
Memphis silt loam, 0 to 1 percent slopes	600	70	65	36	----	260	6.5	10.0	6.5	----
Memphis silt loam, 1 to 3 percent slopes	575	65	60	33	----	250	6.5	10.0	6.5	----
Memphis silt loam, 3 to 8 percent slopes, eroded	550	60	55	28	----	200	6.5	9.5	6.5	----
Mhoon silty clay loam	600	65	60	35	27	----	7.5	10.5	----	9.5
Mhoon silty clay	475	60	50	32	25	----	7.0	----	----	9.0
Mhoon-Sharkey complex:										
Mhoon soil	550	----	55	32	20	----	7.0	----	----	9.0
Sharkey soil	475	----	50	29	24	----	7.0	----	----	7.5
Ochlockonee fine sandy loam, overflow	----	----	----	----	----	----	7.0	----	----	----
Olivier silt loam, 0 to 1 percent slopes	450	60	55	30	----	250	6.5	9.5	6.5	----
Olivier silt loam, 1 to 3 percent slopes	425	60	55	28	----	240	6.5	9.5	----	----
Providence silt loam, 1 to 3 percent slopes	525	65	55	30	----	250	6.0	9.5	6.0	----
Sharkey clay	500	60	50	30	25	----	7.0	----	----	8.5
Sharkey silty clay loam	575	65	50	35	27	----	7.5	10.0	----	9.0
Sharkey-Tunica clays, undulating	450	60	45	28	23	----	6.5	----	----	7.5
Sharkey-Tunica association, overflow	----	----	----	----	----	----	5.0	----	----	----
Sharkey-Tunica clays, overflow	----	----	----	----	----	----	5.0	----	----	----
Smoothed land, Dundee and Tensas materials	550	65	50	30	26	----	8.0	----	----	9.0
Springfield silt loam	375	45	40	24	----	----	6.5	----	6.0	----
Springfield-Olivier silt loams:										
Springfield soil	375	45	40	24	----	----	6.5	----	6.0	----
Olivier soil	450	60	50	28	----	----	6.5	----	6.5	----
Terrace escarpments	----	----	----	----	----	----	6.0	7.5	5.5	----
Tunica clay	500	65	50	35	25	----	7.0	----	----	8.5
Tunica-Sharkey clays	500	60	45	28	25	----	7.0	----	----	8.5
Verdun silt loam	325	30	30	19	----	----	4.5	----	5.0	----
Verdun-Deerford silt loams:										
Verdun soil	325	30	30	20	----	----	4.5	----	5.0	----
Deerford soil	425	50	50	26	----	----	5.5	----	5.5	----
Verdun–Fred silt loams:										
Verdun soil	325	30	30	20	----	----	4.5	----	5.0	----
Fred soil	625	70	60	32	----	----	6.5	----	----	----
Waverly-Falaya silt loams, overflow	----	----	----	----	----	----	6.5	----	----	----
Zachary silt loam	----	----	----	----	----	----	6.5	----	----	----

[1] Animal-unit-months is a term used to express the carrying capacity of pasture. It is the number of months that one animal unit can graze 1 acre without injury to the pasture. An animal unit is one cow, one steer, one horse, five hogs, or seven sheep.

Use of the Soils as Woodland[3]

About 44.3 percent of East Baton Rouge Parish is woodland, most of which is in lots of less than 500 acres. Loblolly pine (fig. 6) is the major species on the terraces in the northeastern corner of the parish. Oak, gum, and other kinds of southern hardwoods predominate in the rest of the parish, including the Mississippi River bottom land.

Management of woodland

The soils of this parish have been placed in six woodland groups. Each group consists of soils that are about the same in suitability for trees, productivity of wood crops, and management needs. The "Guide to Mapping Units" at the back of this publication shows the woodland suitability group in which each soil has been placed. Table 3 gives a short description of each group and lists the map symbols that represent the soils in each. It also gives, for each group, productivity ratings for important species, lists of species to be preferred in management, and ratings that show the severity of the management problems. The headings on table 3 are explained in the following paragraphs.

Productivity indicates the amount of wood crops the soils can produce under a given level of management. It is expressed in terms of a site index, which is the height, in feet, to which a tree will grow in a specified number of years—30 for cottonwood and 50 for other trees. The site index ratings for loblolly pine were adapted from soil-site

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[3] LESTER L. LOFTIN, assistant State soil scientist, and MAX C. JOHNSTON, woodland conservationist, Soil Conservation Service, assisted in the preparation of this section.

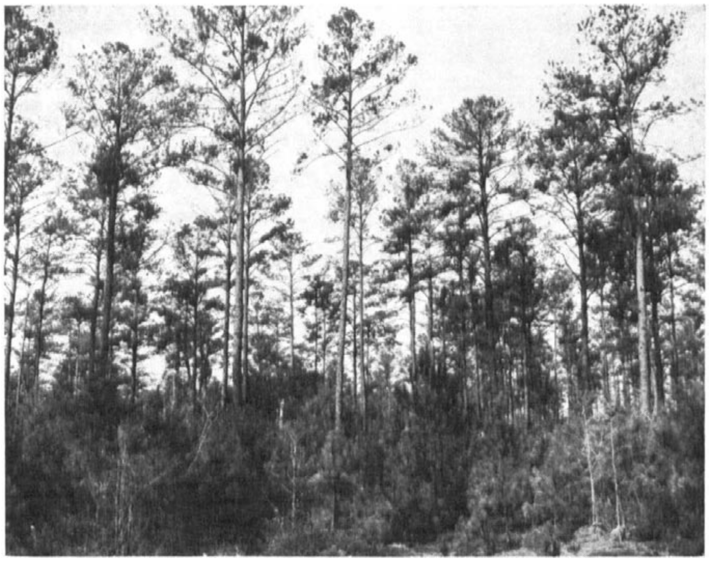

***Figure 6.*—Natural stand of loblolly pine, of saw-log size, in an area of Loring silt loam in woodland suitability group 3.**

studies performed by Louisiana State University and the United States Department of Agriculture. (*5*)[4] The site index ratings for cottonwood, water oak, and sweetgum were adapted from studies performed by the United States Forest Service (*7*, *9*, *10*, *11*). The average yearly growth is that for well-stocked, even-aged stands up to the age of 60.

The *species to be preferred* are not listed in priority order. Each woodland manager should make his own choice in accordance with his objectives and the local management conditions (*12*). Most of the species can be established either by planting seeds or by setting out seedlings.

Plant competition depends on the rapidity with which unwanted trees, shrubs, and vines invade and take over openings in the stand. Competition is *slight* if preferred trees reproduce naturally in adequate numbers and planted seedlings develop normally. Competition is *moderate* if the establishment and growth of either natural or planted seedlings is limited. Some weeding may be required for the development of well-stocked stands of the

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[4] Italic numbers in parentheses refer to Literature Cited, page 78.

TABLE 3.—*Woodland suitability groups*

Group and soil symbols	Productivity		
	Species	Average site index	Average yearly growth [1]
			Bd. ft. per acre, Doyle rule
Group 1.—Nearly level to depressional, acid, medium-textured, slowly to very slowly permeable soils (Cc, Cf, Fw, Ma). For Bonn and Fountain components of Cf, see data given for group 5.	Loblolly pine Sweetgum Water oak	94 73 75	420 160 155
Group 2.—Nearly level to gently sloping, acid, medium-textured to moderately coarse textured, moderately rapidly permeable to very slowly permeable, somewhat poorly drained to well-drained soils (CaB, DrA, DrB, FvA, FvB, OlA, OlB, Sp, Sr).	Loblolly pine Sweetgum Water oak	99 92 90	480 335 290
Group 3.—Nearly level to strongly sloping, acid, medium-textured, moderately well drained to well drained soils (LoA, LoB, LoC2, LoD2, MeA, MeB, MeD2, PrB, Te).	Loblolly pine Sweetgum Water oak	92 102 100	390 460 410
Group 4.—Medium-textured, poorly drained to well-drained soils on bottom lands; subject to flooding (Cl, Jn, Oc, Wf, Za).	Loblolly pine Sweetgum Water oak	100 102 105	490 460 480
Group 5.—Nearly level to very gently sloping, acid to alkaline, medium-textured, poorly drained to moderately well drained soils (De, DfA, DfB, Dn, En, Es, Fn, Fo, Fr, Fs, Je, Jr, Jt, Jv, La, Vd, Ve, Vf). For Olivier component of DfA and DfB, see group 2; for Frost component of Jt and Jv, see data given for group 1.	Sweetgum Water oak	97 95	395 345
Group 6.—Nearly level to gently undulating, fine-textured to coarse textured, poorly drained to excessively drained soils; subject to overflow (Co, Cr, DuA, DuB, DyB, Lm, Mn, Mh, Ms, Sc, Sh, Sk, Sm, SmB, So, Tn, Ts).	Cottonwood Sweetgum Water oak	104 94 93	570 360 350

[1] The average yearly growth is that for well-stocked, even-aged stands to age 60. The yields shown for sweetgum and water oak are those for stands with scheduled intermediate cuttings. The yields shown for loblolly pine are those for naturally occurring stands without cutting.

preferred species. Competition is *severe* if it prevents naturally occurring planted seedlings from satisfactorily restocking an area without site preparation or weeding.

Seedling mortality refers to the expected loss of seedlings as a result of soil-related factors. The mortality in this parish is caused primarily by soil wetness. It is most severe in areas subject to long periods of flooding or excess surface water. Mortality is *slight* if natural reproduction can be relied upon for adequate stocking and if less than 25 percent of the planted seedlings die. Mortality is *moderate* if between 25 and 40 percent die and some site preparation is needed for satisfactory establishment of natural stands. Mortality is *severe* if more than 40 percent of planted seedlings die, or if natural regeneration cannot be relied on and some areas generally need to be replanted.

Equipment limitations depend on the characteristics of the soils and on topographic features that restrict or limit the use of conventional equipment in planting, harvesting, road construction, fire control, and other woodland activities. The limitation is *slight* if most kinds of equipment can be used the year round. The limitation is *moderate* if the use of conventional equipment is limited by one or more unfavorable factors, such as seasonal wetness or flooding, slope, or the risk of injury to tree roots. The limitation is *severe* if conventional equipment can be used for not more than 3 months during the year and special equipment is usually required.

Erosion hazard refers to the severity of sheet erosion or gully erosion resulting from cultural operations or the construction of roads and fire lanes. Slope is the primary cause of erosion. Generally, the hazard is *slight* if the slope is less than 5 percent; *moderate* if the slope range is between 5 and 12 percent; and *severe* if the slope is more than 12 percent.

Use of the Soils for Wildlife[5]

The soils of this parish have been placed in four major groups on the basis of their suitability as habitat for wildlife. The names of soil series represented are mentioned in the following discussion of each group, but this does not mean that all the soils of a given series are in the group.

and factors in woodland management

Species to be preferred in existing stands and for planting	Management problems			
	Plant competition	Seedling mortality	Equipment limitation	Erosion hazard
Loblolly pine, slash pine	Severe	Slight to moderate	Severe	Slight.
Loblolly pine, cherrybark oak, sweetgum.	Severe	Slight	Slight to moderate	Slight.
Loblolly pine, slash pine, cherrybark oak, sweetgum, water oak, yellow-poplar.	Moderate	Slight	Slight on slopes of less than 8 percent; moderate on slopes of 8 to 20 percent; severe on slopes of more than 20 percent.	Slight on slopes of less than 5 percent; moderate on slopes of 5 to 12 percent; severe on slopes of more than 12 percent.
Loblolly pine, slash pine, spruce pine, yellow-poplar, sycamore, sweetgum, water oak, cherrybark oak, white oak, cottonwood.	Severe	Slight to moderate	Moderate to severe	Slight.
Sweetgum, water oak	Moderate	Moderate	Slight to moderate	Slight to moderate.
Cottonwood, sycamore, sweetgum, water oak, hackberry, green ash.	Moderate	Slight to severe	Moderate to severe	Slight.

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[5] CARL H. THOMAS, biologist, Soil Conservation Service, assisted in preparing this section.

The "Guide to Mapping Units" at the back of this publication lists the wildlife suitability group in which each soil has been placed.

Wildlife suitability group 1

In this group are Made land, Smoothed land, and soils of the Amagon, Bonn, Calhoun, Dundee, Fountain, Frost, Mhoon, Jeanerette, Sharkey, Tensas, and Tunica series. These soils are mainly level, poorly drained, and slowly to very slowly permeable. They provide habitat suitable for doves, deer, ducks, rabbits, squirrels, and turkeys. Their use by bobwhite quail is limited by wetness.

If well managed, large areas in commercial hardwoods and the pastures nearby, especially those containing fescue and white clover, make good habitat for deer, turkeys, and squirrels. Open areas can be managed successfully for doves if choice foods are planted and crop residues are not removed. Native foods are somewhat scarce, but excellent foods that can be planted include browntop millet, Texas panicum, brownseed paspalum, and croton. Waste grain and weed seeds also are choice foods.

The choice foods for rabbits are tender grasses and clovers. Good pasture management greatly benefits rabbits.

Farmland and woodland can be managed for wild ducks, primarily mallards and wood ducks. Japanese millet and other food plants can be grown on farmland, and oak trees in wooded areas also produce excellent food. Food for ducks must be flooded. The water generally can be impounded by means of low levees.

Wildlife suitability group 2

In this group are soils of the Commerce, Deerford, Essen, Frost, Fred, Jeanerette, Lafe, Olivier, Springfield, and Verdun series. These soils are mainly level, somewhat poorly drained, and slowly permeable. They provide habitat suitable for deer, doves, quail, rabbits, turkeys, and squirrels. Impoundments for ducks are practicable in some areas.

If well managed, large areas in pines and commercial hardwoods and the pastures nearby make good habitat for deer, turkeys, and squirrels. Open areas can be managed successfully for doves and quail if choice foods are planted and crop residues are not removed.

The choice foods for rabbits are tender grasses and clovers. Good pasture management greatly benefits rabbits.

Wildlife suitability group 3

In this group are Terrace escarpments and soils of the Cahaba, Deerford, Dexter, Freeland, Loring, Memphis, Olivier, and Providence series. These soils are nearly level to sloping and somewhat poorly drained to well drained. They provide habitat suitable for deer, doves, quail, rabbits, turkeys, and squirrels. Many sites in drainageways can be developed for fishponds.

Open areas can be managed successfully as habitat for doves and quail if choice foods are planted and crop residues are not removed. Native foods for doves are somewhat scarce. Well-managed woodland of both pines and hardwoods furnishes food for squirrels, deer, and turkeys. Pasture near large tracts of woodland benefits deer, turkeys, and rabbits.

Wildlife suitability group 4

In this group are Loamy alluvial land and soils of the Cascilla, Crevasse, Falaya, Jeanerette, Mhoon, Ochlockonee, Sharkey, Tunica, Waverly, and Zachary series. These soils are on bottom lands and are subject to flooding. They provide suitable habitat for deer, rabbits, and squirrels.

Management of these soils for wildlife is difficult. Controlling water to provide places for waterfowl generally is not practicable, and food plantings are not always successful, because of the flooding. Woodland consisting of mixed hardwoods can be managed for deer and squirrels. High water drives deer and rabbits to higher ground.

Use of the Soils in Engineering[6]

This section of the soil survey provides information that engineers can use in planning residential, industrial, business, or recreational development and in construction of highways, foundations, earthwork, and agricultural engineering structures. The information can be used to—

1. Make studies that will aid in selecting and developing industrial, business, residential, and recreational sites.
2. Make reconnaissance surveys of soil and ground conditions that will aid in selecting sites for highways, parking areas, and airports, and in planning detailed investigations at these sites.
3. Locate sources of sand, gravel, or subbase material.
4. Correlate performance of pavements with types of soil and thus develop information that will be useful in designing and maintaining highways.
5. Determine the suitability of soils for cross-country movement of vehicles and construction equipment.
6. Make preliminary estimates of soil properties, for use in planning agricultural drainage systems, farm ponds, and irrigation systems.
7. Determine the limitations of soils for septic tanks or lagoons.
8. Supplement information obtained from other published maps and reports and aerial photographs, for the purpose of making soil maps and reports that engineers can use readily.

With the use of the soil map for identification, the engineering interpretations in this section can be useful for many purposes. It should be emphasized that they do not eliminate the need for sampling and testing at the site of specific engineering works involving heavy loads and excavations deeper than the depths of layers here reported. Even in these situations, however, the soil map is useful in planning more detailed field investigations and for suggesting the kinds of problems that can be expected.

Some terms used by soil scientists may not be familiar to engineers, and some terms have special meanings in soil science. Many such terms are defined in the Glossary at the end of this publication.

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[6] LESTER L. LOFTIN, assistant State soil scientist, and H. J. FOREMAN, assistant State conservation engineer, SCS, prepared this section in cooperation with the Louisiana Department of Highways and the East Baton Rouge Parish City-Parish Planning Commission.

Engineering test data

Engineers identify soils according to their texture and plasticity and place them in groups according to their performance as construction materials. They base their identification on the following properties: grain-size distribution (the percentage of gravel, sand, and fines), plasticity, and compressibility. An approximate classification of these properties can be made in the field, but actual laboratory tests are needed for an exact classification.

Most highway engineers classify soils according to the system approved by the American Association of State Highway Officials (AASHO) (*1*). In this system the soil materials are classified in seven principal groups. The groups range from A–1, which consists of gravelly soils of high bearing capacity, to A–7, which consists of clayey soils that have low strength when wet.

Some engineers prefer to use the Unified soil classification system (*13*). In this system the soil materials are identified as coarse grained (eight classes), fine grained (six classes), and highly organic.

The Louisiana Department of Highways has tested the major layers of several soils in this parish. The results of these tests, which were made in accordance with standard procedures, are given in table 4. The soils were sampled to a depth of about 5 feet, and the data, therefore, are not adequate for estimating the characteristics of soils in deeper cuts.

The *mechanical analysis* data shown in table 4 were obtained by the combined hydrometer and sieve method. The tests for liquid limit and plastic limit measure the effect of water on the consistence of the soil material. A dry, clayey soil material, for example, changes from a semisolid to a plastic state when the moisture content is increased. As the moisture content is further increased, the material changes from a plastic to a liquid state. The *plastic limit* is the moisture content at which the material passes from a semisolid to a plastic state. The *liquid limit* is the moisture content at which the material passes from a plastic to a liquid state. The *plasticity index* is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which the material is in a plastic state.

In construction work, engineers are concerned also with shrinkage, moisture-density data, and dispersion of soil materials. As moisture leaves a soil, the soil decreases in volume in proportion to the loss in moisture, until a point is reached where shrinkage stops, even though additional moisture is removed. The moisture content at which shrinkage stops is called the *shrinkage limit.* The *shrinkage ratio* is the volume change resulting from the drying of a soil material, divided by the loss of moisture caused by drying. The ratio is expressed numerically.

Moisture-density, or compaction, data are important in earthwork, for, as a rule, the soil is most stable if it is compacted to about the maximum dry density at approximately the optimum moisture content. If a dry soil material is compacted at successively higher moisture content, assuming that the compactive effort remains constant, the density of the material will increase until the optimum moisture content is reached. After that, the density decreases as the moisture content increases. The highest dry density obtained in the compaction test is termed *maximum dry density*, and the corresponding moisture content is the *optimum moisture.* A tolerance of 95 to 100 percent of maximum dry density is specified in many earthwork contracts. Therefore, the percentage of moisture of the material to be compacted can vary, provided 95 percent of maximum dry density is exceeded when the material is compacted.

Dispersion refers to the degree and speed with which soil structure breaks down, or slakes, in water. A highly dispersed soil is one that sloughs readily, is highly erodible on slopes, and has low shear strength and high piping potential. Bonn and Verdun soils, for example, disperse readily and have a high dispersion rate.

Estimated engineering properties of the soils

Table 5 gives estimates of properties for each mapping unit delineated on the soil map at the back of this publication. These estimates were based on the results of laboratory tests shown in table 4, on tests made of similar soils in adjacent parishes, on field observations, and on the behavior of the soils in this parish. A detailed description of each mapping unit and information about the range in characteristics and the inclusion of other soils can be found in the section "Descriptions of the Soils." The column headings in table 5 that were not explained in the discussion of table 4 are explained in the following paragraphs.

Reaction refers to the degree of acidity or alkalinity of a soil. It is expressed in pH values.

Permeability refers to the rate at which water moves through an undisturbed soil. The estimates were based on the structure and porosity of the soils and on permeability tests of undisturbed cores of similar soils. Permeability of the underlying material in a soil controls the rate of seepage and is the major soil feature to be considered in locating sites for ponds and reservoirs. Permeable soils, such as Cahaba sandy loam, generally are not suitable unless they are treated to reduce seepage.

Available water capacity refers to the amount of water available in a soil for the use of plants. It is the numerical difference between the amount of water in a soil at field capacity and the amount of water in the same soil at the permanent wilting point.

Shrink-swell potential indicates the volume change to be expected when a soil changes in moisture content. Much damage to building foundations, roads, and other structures is caused by the shrinking and swelling of soils as a result of alternate wetting and drying. This quality depends on the physical properties or characteristics of the soil. Sharkey clay, for example, has a high shrink-swell potential. This soil is high in content of montmorillonitic clay and is very sticky when wet and develops extensive shrinkage cracks as it dries. Cahaba sandy loam, which is very low in clay content and is nonplastic, has a low shrink-swell potential.

Percolation rate refers to the speed with which water moves downward through a soil. Percolation tests help engineers to determine how suitable the soils are for septic tanks and to design suitable disposal systems.

Bearing capacity refers to the ability of a soil to support a static load. It is affected by texture, moisture content, density, consistence, and possibly gradation and other characteristics. The soils of this parish were rated as good,

TABLE 4.—*Engineering*

[Tests performed by the Louisiana Department of Highways in accordance with

Soil name [1]	Louisiana Department of Highways laboratory report number	Depth	Horizon	Mechanical analysis [2]					
				Percentage passing sieve—		Percentage smaller than—			
				No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.05 mm.	0.02 mm.	0.005 mm.	0.002 mm.
		In.							
Bonn silt loam.	726246	5 to 14	A&B	100	92	92	62	[5] ND	14
	726247	32 to 48	B22tg	100	94	94	68	ND	26
Cahaba sandy loam.	726227	13 to 19	B21t	100	59	59	40	ND	20
	726228	26 to 34	B3	100	20	20	14	ND	6
	726229	42 to 52	IIC2	[8] 98	6	6	4	ND	2
Calhoun silt loam.	672726	5 to 16	B&A	100	100	100	58	23	18
	672727	16 to 31	B2tg	100	100	99	60	34	29
	672728	51 to 64	C	100	100	99	43	16	14
Commerce loam.	725310	0 to 7	Ap	100	75	59	26	ND	14
	725311	7 to 16	A12	100	81	67	41	ND	26
	725312	34 to 44	C2g	100	55	41	19	ND	13
Deerford silt loam.	725324	3 to 6	A2	100	100	100	45	ND	10
	725325	10 to 20	B21t	100	100	100	68	ND	29
	725326	34 to 49	B3t	100	100	100	67	ND	22
Dexter very fine sandy loam.	726221	0 to 4	Ap1	[8] 90	54	53	30	ND	6
	726222	19 to 30	B22t	96	78	78	64	ND	24
	726223	43 to 52	B32t	91	45	45	32	ND	15
Essen silt loam.	725321	0 to 3	Ap1	100	100	100	52	ND	18
	725322	14 to 28	B2t	100	100	100	51	ND	19
	725323	28 to 51	B3t	100	100	100	64	ND	22
Frost silt loam.	725327	3 to 11	A2	100	84	83	57	ND	16
	725328	20 to 32	B21tg	100	91	91	70	ND	34
	725329	38 to 52	B23tg	100	92	92	71	ND	33
Jeanerette silt loam.	726230	4 to 11	B21t	100	100	100	64	ND	20
	726231	24 to 35	B23t	100	100	100	68	ND	24
Loring silt loam.	726216	0 to 4	Ap1	100	100	100	52	ND	9
	726217	11 to 22	B21t	100	100	100	64	ND	26
	726218	36 to 52	B3x	100	100	100	56	ND	16
Memphis silt loam.	726232	0 to 4	Ap1	100	98	95	44	ND	11
	726233	8 to 18	B21t	100	100	100	62	ND	29
	726234	36 to 48	B3	100	100	100	56	ND	25
Olivier silt loam.	672705	9 to 15	B21t	100	100	100	62	30	20
	672706	22 to 30	Btx	100	100	100	56	24	20
	672707	52 to 64	B'3x	100	98	97	57	20	16
Providence silt loam.	726240	0 to 7	Ap	100	95	95	56	ND	12
	726241	11 to 22	B21t	100	96	96	60	ND	25
	726242	35 to 49	IIB23tx	100	88	88	72	ND	23
Sharkey clay.	726235	0 to 6	Ap1	100	98	98	82	ND	56
	726236	18 to 30	A–C	100	98	95	82	ND	54
Springfield silt loam.	726258	9 to 11	A22g	100	98	98	58	ND	16
	726259	16 to 23	B2t	100	100	100	76	ND	47
	727260	32 to 68	C	100	100	100	68	ND	28
Verdun silt loam.	672729	11 to 15	B22t	100	100	ND	70	33	26
	672730	21 to 32	B3t	100	100	99	60	31	24
	672731	44 to 60	C	100	100	100	64	33	28

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[1] Jeanerette silt loam was sampled 200 feet north of the Rafe Meyer Road, sec. 48, T. 5 S., R. 1 W. Sharkey clay was sampled in sec. 72, T. 8 S., R. 1 W. All the other soils tested were sampled at the location given for the profile described in the section "Descriptions of the Soils."

[2] Mechanical analysis according to AASHO Designation: T 88-57 (*1*). Results by this procedure frequently differ somewhat from results that would have been obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO procedure the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analysis data in this table are not suitable for use in naming textural classes for soils.

test data

standard procedures of the American Association of State Highway Officials (AASHO)]

Liquid limit	Plasticity index	Shrinkage		Moisture-density data [3]			Dispersion	Classification	
		Limit	Ratio	Maximum dry density	Optimum moisture content for maximum dry density	Moisture content for 95 percent of maximum dry density		AASHO	Unified [4]
				Lb./cu. ft.	*Pct.*	*Pct.*	*Pct.*		
23	3	19	1. 69	106	17. 0	11 to 21	30. 0	A–4(8)	ML.
37	22	15	1. 79	107	17. 3	ND to 22	31. 0	A–6(9)	CL.
23	11	11	1. 90	116	13. 7	12 to 18	4. 0	A–6–5(5)	CL.
[6] NP	NP	[7] NS	NS	120	11. 0	ND to 15	0	A–2–4(0)	SM.
NP	NP	NS	NS	102	14. 8	ND to 19	25. 0	A–3(0)	SP–SM.
26	5	ND	ND	107	16. 1	10 to 21	23. 9	A–4(8)	ML.
39	25	ND	ND	105	17. 8	14 to 22	21. 0	A–6(14)	CL.
29	8	ND	ND	107	16. 7	ND to 18	30. 6	A–4(8)	ML–CL.
NP	NP	NS	NS	106	15. 5	10 to 19	52. 0	A–4(8)	ML.
34	20	17	1. 73	107	17. 6	ND to 20	15. 0	A–6(12)	CL.
NP	NP	NS	NS	107	15. 6	ND to 19	59. 0	A–4(4)	ML.
NP	NP	NS	NS	103	16. 9	ND to 20	25. 0	A–4(8)	ML.
34	18	16	1. 73	106	17. 3	13 to 22	16. 0	A–6(11)	CL.
31	15	18	1. 72	110	15. 8	ND to 21	28. 0	A–6(10)	CL.
NP	NP	NS	NS	109	13. 7	ND to 18	0	A–4(4)	ML.
31	14	16	1. 74	113	15. 4	13 to 19	0	A–6(9)	CL.
21	8	12	1. 89	122	11. 5	10 to 14	0	A–4(2)	SC.
28	5	20	1. 62	104	15. 5	11 to 21	12. 0	A–4(8)	ML–CL.
38	18	ND	ND	109	15. 8	ND to 21	36. 0	A–6(11)	CL.
27	9	19	1. 74	104	15. 5	11 to 21	14. 0	A–4(8)	CL.
28	7	20	1. 64	107	14. 4	10 to 19	22. 0	A–4(8)	ML–CL.
41	26	14	1. 81	107	18. 4	16 to 22	12. 0	A–7–6(15)	CL.
43	29	13	1. 86	107	18. 4	16 to 22	19. 0	A–7–6(16)	CL.
33	13	22	1. 64	101	18. 4	13 to 22	10. 0	A–6(9)	CL.
40	22	16	1. 77	104	15. 7	12 to 22	15. 0	A–6(13)	CL.
NP	NP	NS	NS	100	18. 6	12 to 21	ND	A–4(8)	ML.
39	17	ND	ND	103	19. 3	14 to 23	ND	A–6(11)	CL.
35	13	ND	ND	105	16. 9	12 to 22	ND	A–6(9)	ML–CL.
NP	NP	NS	NS	99	18. 0	12 to 22	23. 0	A–4(8)	ML.
38	18	18	1. 73	103	19. 6	13 to 24	15. 0	A–6(11)	CL.
37	17	19	1. 69	106	17. 5	14 to 22	15. 0	A–6(11)	CL.
33	14	ND	ND	105	17. 8	14 to 22	16. 6	A–6(10)	CL.
39	17	ND	ND	105	17. 5	13 to 22	18. 5	A–6(11)	CL.
28	10	ND	ND	107	16. 1	10 to 21	27. 5	A–4(8)	CL.
NP	NP	NS	NS	104	16. 1	10 to 20	10. 0	A–4(8)	ML.
35	14	18	1. 74	107	17. 3	ND to 22	10. 0	A–6(10)	CL.
32	15	18	1. 74	110	15. 6	11 to 19	14. 0	A–6(10)	CL.
67	41	11	1. 79	86	29. 5	ND	17. 0	A–7–6(20)	CH.
74	54	11	1. 79	93	26. 7	20 to 31	9. 0	A–7–6(20)	CH.
NP	NP	NS	NS	104	16. 2	11 to 21	14. 0	A–4(8)	ML.
55	34	13	1. 85	93	26. 7	20 to 31	9. 0	A–7–6(19)	CH.
40	24	19	1. 72	105	15. 7	12 to 22	21. 0	A–6(14)	CL.
36	23	ND	ND	105	17. 8	14 to 22	45. 5	A–6(13)	CL.
36	19	ND	ND	105	17. 8	14 to 22	41. 9	A–6(11)	CL.
40	23	ND	ND	ND	ND	ND	48. 0	A–6(13)	CL.

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[3] Based on AASHO Designation: T 99–57, Method A (*1*).

[4] Soil Conservation Service and Bureau of Public Roads have agreed to consider that all soils having plasticity indexes within 2 points of the A-line are to be given a borderline classification. Examples of borderline classifications obtained by this use are SP–SM and ML–CL.

[5] ND = Not determined.

[6] NP = Nonplastic.

[7] NS = No shrinkage.

[8] The rest of the material passes a No. 10 sieve.

TABLE 5.—*Estimated engi-*

Soil series and map symbols	Depth from surface	Classification			Percentage passing sieve—		Reaction
		USDA texture	Unified	AASHO	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	
	In.						*pH*
Amagon.	0 to 6	Silt loam or silty clay loam.	ML–CL, CL.	A–4, A–6	95 to 100	95 to 100	5.5 to 6.0
Mapped only with soils of Dundee series.	6 to 30	Silty clay loam	CL	A–6, A–7	95 to 100	95 to 100	5.0 to 6.0
	30 to 48	Silt loam or silty clay loam.	ML–CL, CL.	A–6, A–4	95 to 100	95 to 100	5.5 to 6.0
Bonn.	0 to 16	Silt loam	ML, ML–CL.	A–4	95 to 100	90 to 100	5.5 to 8.0
Mapped only with soils of Calhoun and Fountain series.	16 to 48	Silt loam or silty clay loam.	CL, ML–CL.	A–6, A–4	95 to 100	85 to 100	5.5 to 8.2
Cahaba (CaB).	0 to 10	Sandy loam	SM	A–2	90 to 100	15 to 35	5.5 to 6.0
	10 to 26	Sandy clay loam or clay loam.	CL	A–6	95 to 100	50 to 70	5.0 to 5.5
	26 to 48	Sandy loam to sand	SM, SP–SM.	A–2, A–3	90 to 100	5 to 35	4.5 to 5.5
Calhoun (Cc, Cf).	0 to 12	Silt loam	ML, ML–CL.	A–4	95 to 100	95 to 100	5.0 to 6.0
For properties of Bonn and Fountain components of Cf, see those series in this table.	12 to 30	Silty clay loam or silt loam.	CL	A–6	95 to 100	95 to 100	5.0 to 5.5
	30 to 48	Silt loam	ML–CL, ML.	A–4, A–6	95 to 100	95 to 100	5.0 to 5.5
Cascilla (Cl).	0 to 48	Silt loam	ML–CL, ML.	A–4, A–6	95 to 100	90 to 100	5.0 to 5.5
Commerce (Co).	0 to 20	Loam or silt loam	ML	A–4	95 to 100	70 to 85	6.0 to 6.5
	20 to 48	Clay loam, silty clay loam, silt loam, or very fine sandy loam.	CL, ML	A–6, A–4	95 to 100	55 to 95	7.0 to 8.0
Crevasse (Cr).	0 to 48	Fine sand or loamy fine sand.	SP–SM, SM.	A–3, A–2	90 to 100	5 to 20	7.0 to 8.0
Deerford (De, DfA, DfB, Dn).	0 to 10	Silt loam	ML	A–4	95 to 100	95 to 100	5.0 to 6.0
For properties of Olivier component of DfA and DfB and for Verdun component of Dn, see those series in this table.	10 to 34	Silty clay loam or silt loam.	CL	A–6, A–7	95 to 100	90 to 100	5.5 to 8.0
	34 to 48	Silt loam	ML–CL, CL.	A–4, A–6	95 to 100	90 to 100	8.0 to 8.2
Dexter (DrA, DrB).	0 to 7	Very fine sandy loam	ML, SM	A–4	85 to 100	45 to 60	5.5 to 6.0
	7 to 30	Silty clay loam or clay loam.	CL	A–6	90 to 100	70 to 90	5.0 to 5.5
	30 to 48	Sandy clay loam or fine sandy loam.	SC, CL	A–4, A–6	85 to 95	40 to 55	4.5 to 5.5
Dundee (DuA, DuB, DyB).	0 to 7	Silt loam or silty clay loam.	ML–CL, CL.	A–4, A–6	95 to 100	95 to 100	5.5 to 6.0
For properties of Amagon component of DuA and DuB and for Sharkey and Tensas components of DyB, see those series in this table.	7 to 24	Silty clay loam	CL	A–6, A–7	95 to 100	95 to 100	5.6 to 6.0
	24 to 48	Silt loam, loam, or silty clay loam.	ML–CL, CL.	A–4, A–6	95 to 100	95 to 100	5.5 to 7.0
Essen (En, Es).	0 to 6	Silt loam	ML, ML–CL.	A–4	95 to 100	95 to 100	5.5 to 8.0
For properties of Lafe component of Es, see that series in this table.	6 to 28	Silty clay loam or silt loam.	CL	A–6	95 to 100	90 to 100	7.0 to 8.0
	28 to 48	Silt loam	ML, ML–CL.	A–4, A–6	95 to 100	90 to 100	8.0 to 8.2

See footnote at end of table.

neering properties of the soils

Permeability	Available water capacity	Shrink-swell potential	Dispersion	Percolation rate	Bearing capacity for buildings of one or two stories	Corrosion potential of untreated steel pipe	Wetness	Erosion hazard	Overflow hazard
In. per hr.	*In. per in. of soil*			*Min. per in.*					
0.2 to 0.63	0.21 to 0.23	Low to moderate.	Low.	>75	Fair	High	Wet	Slight	(1).
0.2 to 0.63	.21 to .22	Moderate	Low.						
0.2 to 0.63	.21 to .23	Low to moderate.	Low.						
0.2 to 0.63	.15 to .23	Low	High.	>75	Poor to fair.	High	Wet	Moderate on slopes of 0 to 1 percent.	(1).
<0.2	.13 to .16	Low to moderate.	High.						
2.0 to 6.3	.08 to .12	Low	Low.	<45	Good	Low	Not wet	Moderate on slopes of 1 to 3 percent.	None to slight.
0.63 to 2.0	.15 to .18	Low	Low.						
2.0 to 6.3	.08 to .12	Low	Moderate.						
0.2 to 0.63	.22 to .23	Low	Moderate.	>75	Poor to fair.	High	Wet	Slight	(1).
<.02	.21 to .23	Low to moderate.	Moderate.						
0.2 to 0.63	.22 to .23	Low	Moderate.						
0.63 to 2.0	.22 to .23	Low	Low to moderate.	<45	Fair	Low	Not wet	Slight	Severe.
0.2 to 0.63	.18 to .23	Low	Low.	45 to 75	Fair	High	Moderately wet.	Slight	(1).
0.2 to 2.0	.17 to .23	Low to moderate.	Low.						
>6.3	.06 to .10	Low	Moderate.	<45	Good	Moderate.	Not wet	Slight	Severe.
0.2 to 0.63	.22 to .23	Low	Moderate.	>75	Fair	High	Moderately wet.	Slight on slopes of 0 to 1 percent; moderate on slopes of 1 to 3 percent.	(1).
<0.2	.14 to .18	Low to moderate.	Moderate.						
0.2 to 0.63	.14 to .18	Low	High.						
2.0 to 6.3	.21 to .22	Low	Low.	<45	Good	Low	Not wet	Slight on slopes of 0 to 1 percent; moderate on slopes of 1 to 3 percent.	(1).
0.63 to 2.0	.17 to .21	Low	Low.						
0.63 to 2.0	.14 to .15	Low	Low.						
0.2 to 0.63	.21 to .23	Low to moderate.	Low.	>75	Fair	High	Moderately wet.	Slight	(1).
0.2 to 0.63	.21 to .22	Moderate	Low.						
0.2 to 2.0	.18 to .23	Low to moderate.	Low.						
0.63 to 2.0	.22 to .23	Low	Moderate.	>75	Fair	High	Moderately wet.	Slight	(1).
0.2 to 0.63	.21 to .23	Low to moderate.	Moderate.						
0.2 to 0.63	.18 to .23	Low	Moderate.						

TABLE 5.—*Estimated engineering*

Soil series and map symbols	Depth from surface	Classification			Percentage passing sieve—		Reaction
		USDA texture	Unified	AASHO	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	
	In.						*pH*
Falaya. Mapped only with soils of Waverly series.	0 to 48	Silt loam	ML–CL, ML	A–4, A–6	95 to 100	90 to 100	4.5 to 5.5
Fountain (Fn, Fo). For properties of Bonn component of Fo, see that series in this table.	0 to 10	Silt loam	ML, ML–CL	A–4	95 to 100	95 to 100	5.5 to 8.0
	10 to 45	Silty clay loam or silt loam.	CL	A–6	95 to 100	95 to 100	7.5 to 8.2
	45 to 48	Silt loam	ML–CL, ML	A–4, A–6	95 to 100	95 to 100	7.5 to 8.2
Fred (Fr, Fs). For properties of Deerford component of Fs, see that series in this table.	0 to 9	Silt loam	ML, ML–CL	A–4	95 to 100	95 to 100	6.0 to 7.5
	9 to 32	Silty clay loam	CL	A–6, A–7	95 to 100	90 to 100	7.0 to 8.0
	32 to 48	Silt loam	ML–CL, ML	A–4, A–6	95 to 100	90 to 100	7.0 to 8.2
Freeland (FvA, FvB).	0 to 8	Very fine sandy loam	ML	A–4	90 to 100	50 to 60	5.5 to 6.0
	8 to 24	Silty clay loam, clay loam.	CL	A–6	95 to 100	70 to 90	5.0 to 5.5
	24 to 48	Sandy clay loam	ML–CL, CL	A–6, A–4	85 to 95	50 to 80	5.0 to 5.5
Frost (Fw).	0 to 11	Silt loam	ML, ML–CL.	A–4	95 to 100	85 to 95	5.5 to 6.5
	11 to 48	Silty clay loam	CL	A–7, A–6	95 to 100	90 to 100	5.0 to 6.5
Jeanerette (Je, Jn, Jt).	0 to 5	Silt loam	ML–CL, CL	A–4, A–6	95 to 100	95 to 100	6.0 to 8.0
For properties of Frost component of Jt, see that series in this table.	5 to 48	Silty clay loam or silt loam.	CL, ML–CL	A–6, A–4	85 to 100	80 to 100	7.0 to 8.0
Light-colored variant (Jr, Jv).	0 to 9	Silt loam	ML–CL, CL	A–4, A–6	95 to 100	95 to 100	4.5 to 5.5
For properties of Frost component of Jv), see that series in this table.	9 to 48	Silty clay loam	CL	A–6	95 to 100	95 to 100	5.5 to 5.0
Lafe (La).	0 to 13	Silt loam	ML, ML–CL.	A–4	95 to 100	95 to 100	5.5 to 8.0
	13 to 24	Silty clay loam or silt loam.	CL	A–6	95 to 100	90 to 100	6.0 to 8.2
	24 to 48	Silt loam	ML–CL, CL	A–4, A–6	95 to 100	80 to 100	8.0 to 8.2
Loamy alluvial land and Mhoon soils (Lm). Material too variable to rate except for flood hazard.	-------	--------------------	------------	------------	--------	--------	----------
Loring (LoA, LoB, LoC2, LoD2).	0 to 11	Silt loam	ML	A–4	95 to 100	95 to 100	5.5 to 6.0
	11 to 22	Silty clay loam or silt loam.	CL	A–6	95 to 100	95 to 100	5.0 to 5.5
	22 to 48	Silt loam	ML–CL, CL	A–6, A–4	95 to 100	95 to 100	4.5 to 5.5

See footnote at end of table.

properties of the soils—Continued

Permeability	Available water capacity	Shrink-swell potential	Dispersion	Percolation rate	Bearing capacity for buildings of one or two stories	Corrosion potential of untreated steel pipe	Wetness	Erosion hazard	Overflow hazard
In. per hr.	*In. per in. of soil*			*Min. per in.*					
0.63 to 2.0	0.22 to 0.23	Low	Low to moderate.	45 to 75	Fair	High	Moderately wet.	Slight	Severe.
0.2 to 0.63	.22 to .23	Low	Moderate.	>75	Fair	High	Wet	Slight	(1).
<0.2	.21 to .23	Low to moderate.	Moderate.						
0.2 to 0.63	.18 to .23	Low	Moderate.						
0.63 to 2.0	.22 to .23	Low	Moderate.	45 to 75	Good	Moderate	Slightly wet.	Slight	(1).
0.2 to 0.63	.21 to .22	Low to moderate.	Moderate.						
0.2 to 0.63	.18 to .23	Low	Moderate.						
0.63 to 2.0	.21 to .22	Low	Low.	45 to 75	Good	Moderate	Slightly wet.	Slight on slopes of 0 to 1 percent; moderate on slopes of 1 to 3 percent.	(1).
0.2 to 0.63	.17 to .21	Low	Low.						
0.63 to 2.0	.15 to .17	Low	Low.						
0.2 to 0.63	.21 to .23	Low	Moderate.	>75	Poor to fair.	High	Wet	Slight	(1).
0.2 to 0.63	.21 to .22	Moderate	Moderate.						
0.2 to 0.63	.22 to .23	Low	Low.	45 to 75	Fair	High	Moderately wet.	Slight	(1).
0.2 to 0.63	.21 to .23	Moderate to low.	Low.						
0.2 to 0.63	.22 to .23	Low	Low.	>75	Fair	High	Very wet	Slight	Severe.
0.2 to 0.63	.21 to .22	Moderate	Low.						
0.2 to 0.63	.15 to .23	Low	High.	>75	Fair	High	Moderately wet.	Moderate on slopes of 0 to 1 percent.	(1).
0.2	.13 to .16	Low to moderate.	High.						
0.2 to 0.63	.15 to .18	Low	High.						
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0.63 to 2.0	.22 to .23	Low	Moderate.	45 to 75	Good	Moderate	Slightly wet.	Slight on slopes of 0 to 1 percent; moderate on slopes of 1 to 3 percent; severe on slopes of 3 to 8 percent.	(1).
0.63 to 2.0	.21 to .23	Low to moderate.	Low.						
0.63 to 2.0	.22 to .23	Low	Low.						

TABLE 5.—*Estimated engineering*

Soil series and map symbols	Depth from surface	Classification			Percentage passing sieve—		Reaction
		USDA texture	Unified	AASHO	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	
	In.						*pH*
Made land (Ma). Material too variable to rate except for flood hazard.	-------	-------	-------	-------	-------	-------	-------
Memphis (MeA, MeB, MeD2).	0 to 8	Silt loam	ML	A-4	95 to 100	95 to 100	5. 5 to 6. 0
	8 to 36	Silty clay loam	CL	A-6	95 to 100	95 to 100	5. 0 to 5. 5
	36 to 48	Silt loam	ML-CL, CL	A-4, A-6	95 to 100	95 to 100	4. 5 to 5. 5
Mhoon (Mh, Mn, Ms). For properties of Sharkey component of Ms, see that series in this table.	0 to 48	Stratified silty clay loam, silt loam, or silty clay.	ML, CL, CH	A-4, A-6, A-7.	95 to 100	95 to 100	6. 5 to 8. 0
Ochlockonee (Oc).	0 to 28	Fine sandy loam	SM	A-2, A-4	50 to 100	25 to 50	5. 0 to 6. 0
	28 to 48	Fine sandy loam to coarse sand and gravel.	SM, SP-SM	A-2, A-1, A-4.	25 to 90	5 to 50	4. 5 to 5. 0
Olivier (OlA, OlB).	0 to 9	Silt loam	ML, ML-CL.	A-4	95 to 100	95 to 100	5. 0 to 6. 0
	9 to 30	Silty clay loam or silt loam.	CL	A-6	95 to 100	95 to 100	4. 5 to 5. 5
	30 to 48	Silt loam	ML-CL, CL.	A-4, A-6	95 to 100	95 to 100	4. 5 to 6. 0
Providence (PrB).	0 to 11	Silt loam	ML	A-4	95 to 100	90 to 100	5. 5 to 6. 0
	11 to 22	Silty clay loam or silt loam.	CL	A-6	95 to 100	90 to 100	5. 0 to 5. 5
	22 to 35	Silt loam or silty clay loam.	CL, ML-CL.	A-6	95 to 100	85 to 95	5. 0 to 5. 5
	35 to 48	Loam or very fine sandy loam.	ML, ML-CL, CL.	A-4, A-6	95 to 100	80 to 95	5. 0 to 5. 5
Sharkey (Sc, Sk, Sh, Sm, SmB).	0 to 7	Silty clay, clay, or silty clay loam.	CH, CL	A-7	95 to 100	95 to 100	6. 0 to 8. 0
For properties of Tunica component of Sk, Sm, and SmB, see that series in this table.	7 to 48	Clay	CH	A-7	95 to 100	95 to 100	7. 5 to 8. 0
Smoothed land, Dundee and Tensas materials (So). Material too variable to rate, except for erosion and flood hazard.	-------	-------	-------	-------	-------	-------	-------
Springfield (Sp, Sr).	0 to 16	Silt loam	ML, ML-CL.	A-4	95 to 100	95 to 100	5. 0 to 6. 0
For properties of Olivier component of Sr, see that series in this table.	16 to 23	Silty clay	CH	A-7	95 to 100	95 to 100	5. 0 to 6. 0
	23 to 48	Silty clay loam or silt loam.	CL, ML-CL.	A-6	95 to 100	90 to 100	6. 0 to 8. 0
Tensas.	0 to 22	Silty clay or clay	CH	A-7	95 to 100	95 to 100	5. 0 to 6. 5
Mapped with soils of Dundee and Sharkey series.	22 to 48	Silty clay loam, silt loam, or loam.	CL, ML-CL.	A-6, A-4	95 to 100	95 to 100	5. 5 to 7. 5

See footnote at end of table.

properties of the soils—Continued

Permeability	Available water capacity	Shrink-swell potential	Dispersion	Percolation rate	Bearing capacity for buildings of one or two stories	Corrosion potential of untreated steel pipe	Wetness	Erosion hazard	Overflow hazard
In. per hr.	*In. per in. of soil*			*Min. per in.*					
------	------	------	------	------	------	------	------	------	(1).
0.63 to 2.0	0.22 to 0.23	Low	Moderate.	<45	Good	Low	Not wet	Slight on slopes of 0 to 1 percent; moderate on slopes of 1 to 3 percent; severe on slopes of 3 to 8 percent.	None to slight.
0.63 to 2.0	.21 to .22	Low to moderate.	Low.						
0.63 to 2.0	.22 to .23	Low	Low.						
0.2 to 2.0	.19 to .23	Moderate to high.	Low.	>75	Poor to fair.	High	Wet	Slight	(1).
0.63 to 2.0	.12 to .14	Low	Moderate.	<45	Good	Low	Not wet	Slight	Severe.
0.63 to 6.3	.05 to .12	Low	Moderate to high.						
0.63 to 2.0	.22 to .23	Low	Moderate.	>75	Fair	High	Moderately wet.	Slight on slopes of 0 to 1 percent; moderate on slopes of 1 to 3 percent.	(1).
0.2 to 0.63	.21 to .23	Low to moderate.	Low to moderate.						
0.2 to 0.63	.22 to .23	Low	Low to moderate.						
0.63 to 2.0	.22 to .23	Low	Moderate.	45 to 75	Good	Moderate.	Slightly wet.	Slight on slopes of 0 to 1 percent; moderate on slopes of 1 to 3 percent; severe on slopes of 3 to 5 percent.	None to slight.
0.63 to 2.0	.21 to .23	Low to moderate.	Low.						
0.2 to 6.3	.22 to .23	Low	Low.						
0.63 to 2.0	.17 to .18	Low	Low.						
<0.2	.19 to .21	Moderate to high.	Low.	>75	Poor	Very high.	Wet	Slight	Slight to moderate on Sc, Sh, and SmB; severe on Sk and Sm.
<0.2	.19 to .20	High	Low.						
------	------	------	------	------	------	------	------	Slight	None to slight.
0.2 to 0.63	.22 to .23	Low	Moderate.	>75	Fair	High	Moderately wet.	Slight to moderate.	(1).
<0.2	.19 to .20	High	Low.						
0.2 to 0.63	.21 to .23	Low	Low.						
<0.2	.19 to .20	High	Low.	>75	Poor	Very high.	Wet	Slight	(1).
<0.2 to 0.63	.18 to .23	Moderate	Low.						

TABLE 5.—*Estimated engineering*

Soil series and map symbols	Depth from surface	Classification			Percentage passing sieve—		Reaction
		USDA texture	Unified	AASHO	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	
	In.						*pH*
Terrace escarpments (Te). Material too variable to rate, except for erosion and flood hazard.	-------	--------------------	------------	------------	--------	--------	---------
Tunica (Tn, Ts). For properties of Sharkey component of Ts, see that series in this table.	0 to 19	Clay	CH	A-7	95 to 100	95 to 100	6. 0 to 8. 0
	19 to 48	Silty clay loam, silt loam, or clay.	CL, ML-CL, CH.	A-6, A-4, A-7.	95 to 100	95 to 100	7. 0 to 8. 0
Verdun (Vd, Ve, Vf).	0 to 6	Silt loam	ML, ML-CL.	A-4	95 to 100	95 to 100	5. 5 to 8. 0
For properties of Deerford component of Ve and Fred component of Vf, see those series in this table.	6 to 35	Silty clay loam	CL	A-6, A-7	95 to 100	90 to 100	7. 0 to 8. 2
	35 to 48	Silt loam	ML-CL, CL.	A-4, A-6	95 to 100	90 to 100	8. 0 to 8. 2
Waverly (Wf). For properties of Falaya component, see that series in this table.	0 to 48	Silt loam	ML-CL, ML.	A-4, A-6	95 to 100	90 to 100	5. 0 to 6.0
Zachary (Za).	0 to 28	Silt loam	ML, ML-CL.	A-4	95 to 100	90 to 100	5. 0 to 5.5
	28 to 48	Silty clay loam	CL	A-6, A-7	95 to 100	90 to 100	5. 0 to 5.5

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[1] Onsite investigations are needed to determine the overflow hazard. Many areas of these soils are not subject to overflow; other

fair, and poor in bearing capacity for buildings of one or two stories built on conventional spread footings set at ordinary depth in undisturbed soils. Dexter very fine sandy loam has good bearing capacity, and Sharkey clay has poor bearing capacity. Engineers and others should not apply specific values to the estimates of bearing capacity given in table 5.

Overflow hazard refers to the risk of flooding as a result of stream overflow, runoff from adjacent areas, or local accumulation. Since the soils affected and the depth and duration of floods vary considerably with the severity of each rainstorm, the ratings shown in table 5 for overflow hazard are intended only for general guidance. Local records should be relied upon for a more accurate estimate of the overflow hazard for any particular soil. The hazard is no more than slight for soils that are not subject to flooding or that are flooded less than once in 15 years. The hazard is moderate if the soil is flooded at least once in 15 years and severe if the soil is flooded one or more times each year. The overflow hazard is none to slight for Memphis silt loam, 1 to 3 percent slopes, and is severe for Waverly-Falaya silt loams, overflow.

Corrosion potential refers to the risk of corrosion of untreated steel pipe as a result of physical and biochemical action. Among the factors that cause corrosion are moisture, soluble salts, electrical conductivity, acidity, texture, and drainage.

The five classes of *soil wetness* used in this parish are: not wet, slightly wet, moderately wet, wet, and very wet. These ratings were based on estimates of the length of time that free water stays in a soil after the saturation point has been reached.

Erosion hazard refers to the risk of loss of soil material through runoff. This hazard increases as the slope increases. The ratings of slight, moderate, and severe in table 5 are based on the assumption that the soils have not been disturbed, except for normal tillage, and that they are left bare for only short periods. The ratings would be higher for disturbed soils or for soils left bare for long periods (fig. 7).

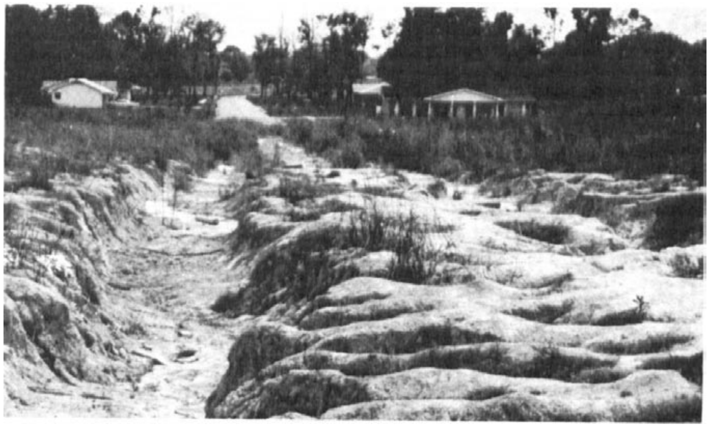

Figure 7.—**Disturbed area of Loring silt loam. Vegetation is needed to prevent further erosion.**

properties of the soils—Continued

Permeability	Available water capacity	Shrink-swell potential	Dispersion	Percolation rate	Bearing capacity for buildings of one or two stories	Corrosion potential of untreated steel pipe	Wetness	Erosion hazard	Overflow hazard
In. per hr.	*In. per in. of soil*			*Min. per in.*					
----------	----------	----------	----------	-------	----------	----------	----------	Moderate to severe.	None to slight.
<0. 2 <0. 2 to 0. 63	0. 19 to 0. 20 . 19 to . 23	High Moderate to high.	Low. Low.	>75	Poor	Very high.	Wet	Slight	Slight to moderate.
0. 2 to 0. 63 <0. 2 0. 2 to 0. 63	. 18 to . 23 . 14 to . 18 . 14 to . 18	Low Moderate Low	High. High. High.	>75	Fair	High	Moderately wet.	Moderate on slopes of 0 to 1 percent.	(1).
0.2 to 0.63	.22 to .23	Low	Moderate.	>75	Poor to fair.	High	Wet	Slight	Severe.
0.2 to 0.63 0.2 to 0.63	.22 to .23 .21 to .22	Low Moderate	Moderate. Moderate.	>75	Poor to fair.	High	Wet	Slight	Severe.

areas are subject to overflow of varying frequency and duration.

Engineering interpretations for the soils

In the first part of table 6, the soils of this parish are rated according to degrees of limitation for use as residential and recreational areas, and the chief limiting factors that affect these uses are shown. Listed in the second part of the table are features that adversely affect embankments, land grading or shaping, and the construction of paved roads, landing strips for airplanes, and parking areas. In the last part the soils are rated as a source of various construction materials.

Considered in rating limitations for use as homesites were bearing capacity, shrink-swell potential, wetness, overflow hazard, and slope. The percolation rate, overflow hazard, and slope were considered in rating limitations for use as septic tank filter fields. Slope, quality of site material, permeability, and overflow hazard were considered in rating limitations for use as sewage lagoons. Erosion hazard, overflow hazard, wetness, texture, content of sodium, and slope were considered in rating limitations for landscaping and gardening. Wetness, overflow hazard, texture, and slope were considered in rating limitations for use as picnic areas, playgrounds, and golf fairways.

A slight limitation is one that is easy to tolerate or to overcome. A moderate limitation is one that needs to be recognized but can be tolerated or overcome by practicable means. A severe limitation is one that makes use of the soil for the purpose listed questionable because the limitation is difficult to tolerate or to overcome. A very severe limitation is one that is so restrictive that use of the soil for the particular purpose generally is not practicable.

Erodibility and lack of stability are features that significantly affect use of the soils as embankments of roads and canals. Stability, shrink-swell potential, piping potential, strength, and seepage characteristics affect use as embankments of levees and dams. Wetness, slope, and workability have to be considered in grading and shaping. Wetness, overflow hazard, erodibility, slope, and the quality of the available subgrade material have to be considered in selecting locations for paved roads, landing strips, and parking areas.

The suitability of a soil for use as material for subgrade, or road fill, depends largely on the texture and the natural water content. Very plastic soils that are high in natural water content are difficult to handle, to dry, and to compact. Tunica clay and Sharkey clay, for example, have a high shrink-swell potential and are rated very poor.

Only the nonplastic soils, such as Cahaba sandy loam and Ochlockonee fine sandy loam, are suitable sources of road subbase material. If Dexter very fine sandy loam, Freeland very fine sandy loam, Cascilla silt loam, and other soils have a plasticity index of less than 15, they can be made suitable by the use of additives.

In many of the soils only the B horizon is not completely suitable as subbase material. In many places suitable material with a plasticity index of less than 15 can be obtained from these soils by mixing the layers or removing the overburden. Bonn, Lafe, and Verdun silt loams, which are erodible and disperse readily, need to be revegetated promptly.

TABLE 6.—*Interpretation of*

Soil series and map symbols	Degree of limitation and chief limiting factors for—					
	Homesites	Septic tank filter fields	Sewage lagoons	Landscaping and gardening	Picnic areas and golf fairways	Playgrounds
Amagon Mapped only with soils of Dundee series.	Severe; very severe if flooded: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Slight; severe if flooded.	Severe: wetness, texture.	Severe: wetness, texture.	Severe; very severe if flooded: wetness, texture.
Bonn Mapped only with soils of Calhoun and Fountain series.	Severe; very severe if flooded: wetness, poor to fair bearing capacity.	Very severe: slow percolation rate.	Moderate; severe if flooded: site material[1].	Very severe: wetness, high sodium content.	Severe: wetness.	Severe; very severe if flooded: wetness.
Cahaba (CaB)	Slight	Slight	Severe: permeability, slope, site material.[1]	Slight; moderate on slopes of more than 3 percent: erosion hazard.	Slight	Slight; moderate on slopes of more than 2 percent.
Calhoun (Cc,Cf) For interpretations of Bonn and Fountain components of Cf, see those series in this table.	Severe; very severe if flooded: wetness, poor to fair bearing capacity.	Very severe: slow percolation rate.	Slight; severe if flooded.	Severe: wetness.	Severe: wetness.	Severe; very severe if flooded: wetness.
Cascilla (Cl)	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.	Severe: frequent floods.	Moderate: frequent floods.	Moderate: frequent floods.
Commerce (Co)	Moderate; very severe if flooded: wetness, fair bearing capacity.	Severe; very severe if flooded: slow percolation rate.	Slight; severe if flooded.	Moderate: wetness.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Crevasse (Cr)	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods, texture.	Severe: frequent floods, texture.	Very severe: frequent floods, texture.
Deerford (De, DfA, DfB, Dn). For interpretations of Olivier component of DfA and DfB and for Verdun component of Dn, see those series in this table.	Moderate; very severe if flooded: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Moderate; severe if flooded: site material.[1]	Moderate: wetness, high sodium content.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Dexter (DrA, DrB)	Slight; very severe if flooded.	Slight; very severe if flooded.	Moderate; severe if flooded: permeability, slope.	Slight	Slight; moderate if flooded.	Slight; moderate on slopes of more than 2 percent or if flooded.

See footnote at end of table.

engineering properties of the soils

Soil features adversely affecting—				Suitability as a source of—			
Embankments of roads and canals	Embankments of levees and dams	Land grading or shaping	Paved roads, airport landing strips, and parking areas	Road subgrade material (road fill)	Road subbase material	Sand or gravel	Topsoil
None	Fair strength	Fair workability, wetness.	Wetness; poor as subgrade material.	Poor	Not suitable	Not suitable	Poor.
Very high erodibility, poor stability.	Poor strength, poor stability, poor resistance to piping.	Fair workability, wetness.	Wetness, very high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Poor.
Moderate erodibility, fair stability.	Subject to seepage, fair stability.	Slope	Slope	Fair to good	Fair to good	Fair: sand and gravel available below depth of 26 inches in some areas.	Fair.
High erodibility, poor stability.	Fair strength, poor stability, poor to fair resistance to piping.	Fair workability, wetness.	Wetness, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Poor.
High erodibility, poor stability.	Fair strength, poor stability, poor resistance to piping.	None	Frequent floods, high erodibility; fair as subgrade material.	Fair	Generally not suitable: fair to good material available below depth of 48 inches in some areas.	Fair: sand and gravel available below depth of 48 inches in some areas.	Good.
Moderate erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Wetness	Wetness; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Good.
High erodibility, fair stability.	Poor stability, seepage, poor resistance to piping.	None	Frequent floods	Fair to good	Fair	Fair: sand available in some areas.	Fair.
Very high erodibility, poor stability.	Poor strength, poor stability, poor resistance to piping.	Fair workability, wetness.	Wetness; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Fair.
Moderate erodibility.	None	None	Slope	Fair: good material available below depth of 30 inches in some areas.	Generally poor: fair to good material available below depth of 30 inches in some areas.	Fair: sand and gravel available below depth of 30 inches in some areas.	Fair.

TABLE 6.—*Interpretation of engineering*

Soil series and map symbols	Degree of limitation and chief limiting factors for—					
	Homesites	Septic tank filter fields	Sewage lagoons	Landscaping and gardening	Picnic areas and golf fairways	Playgrounds
Dundee (DuA, DuB, DyB). For interpretations of Amagon component of DuA and DuB and for Sharkey and Tensas components of DyB, see those series in this table.	Moderate; very severe if flooded: wetness, fair bearing capacity.	Severe; very severe if flooded: slow percolation rate.	Slight; severe if flooded.	Moderate: wetness.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Essen (En, Es) For interpretations of Lafe component of Es, see that series in this table.	Moderate; very severe if flooded: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Slight; severe if flooded.	Moderate: wetness.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Falaya Mapped only with soils of Waverly series.	Very severe: frequent floods, wetness, fair bearing capacity.	Very severe: frequent floods.	Very severe: frequent floods.	Severe: frequent floods, wetness.	Severe: frequent floods.	Very severe: frequent floods, wetness.
Fountain (Fn, Fo) For interpretations of Bonn component of Fo, see that series in this table.	Severe; very severe if flooded: wetness, poor to fair bearing capacity.	Very severe: slow percolation rate.	Slight; severe if flooded.	Severe: wetness.	Severe: wetness.	Severe; very severe if flooded: wetness.
Fred (Fr, Fs) For interpretations of Deerford component of Fs, see that series in this table.	Slight; very severe if flooded.	Moderate; very severe if flooded: slow percolation rate.	Slight; severe if flooded.	Slight	Slight	Slight; moderate if flooded.
Freeland (FvA, FvB)	Slight; very severe if flooded.	Moderate; very severe if flooded: slow percolation rate.	Moderate; severe if flooded: permeability, slope.	Slight	Slight	Slight; moderate on slopes of more than 2 percent or if flooded.
Frost (Fw)	Severe; very severe if flooded: wetness, poor to fair bearing capacity.	Very severe: slow percolation rate.	Slight; severe if flooded.	Severe: wetness.	Severe: wetness.	Severe; very severe if flooded: wetness.
Jeanerette (Je, Jn, Jt, Jv) For interpretations of Frost component of Jt and Jv, see that series in this table.	Moderate; very severe if flooded: wetness, fair bearing capacity.	Severe; very severe if flooded: slow percolation rate.	Slight; severe if flooded.	Moderate: wetness.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Jeanerette (Jr)	Very severe: frequent floods, wetness, fair bearing capacity.	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.

properties of the soils—Continued

Soil features adversely affecting—				Suitability as a source of—			
Embankments of roads and canals	Embankments of levees and dams	Land grading or shaping	Paved roads, airport landing strips, and parking areas	Road subgrade material (road fill)	Road subbase material	Sand or gravel	Topsoil
Moderate erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Wetness	Wetness; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Fair.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Wetness	Wetness, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Fair.
Very high erodibility, very poor stability.	Fair strength, poor stability, poor resistance to piping.	Wetness	Very high erodibility, wetness; poor to fair as subgrade material.	Fair	Generally not suitable: fair to good material available below depth of 48 inches in some areas.	Poor: sand and gravel available below depth of 48 inches in some areas.	Good.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Wetness	Wetness, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Poor.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	None	High erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Fair.
Moderate erodibility.	None	Wetness	Slope	Fair: good material available below depth of 36 inches in some areas.	Generally not suitable: fair to good material available below depth of 36 inches in some areas.	Fair: sand and gravel available below depth of 36 inches in some areas.	Fair.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Fair workability, wetness.	Wetness, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Poor.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Fair workability, wetness.	Wetness, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Fair.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Fair workability, wetness.	Wetness, frequent floods; poor as subgrade material.	Poor	Not suitable	Not suitable	Poor.

TABLE 6.—*Interpretation of engineering*

Soil series and map symbols	Degree of limitation and chief limiting factors for—					
	Homesites	Septic tank filter fields	Sewage lagoons	Landscaping and gardening	Picnic areas and golf fairways	Playgrounds
Lafe (La)	Moderate; very severe if flooded: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Moderate; severe if flooded: site material.[1]	Severe: wetness, high sodium content.	Moderate: wetness.	Severe; very severe if flooded: wetness.
Loamy alluvial land and Mhoon soils (Lm).	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.	Severe: frequent floods.	Severe: frequent floods.
Loring (LoA, LoB, LoC2, LoD2).	Slight; very severe if flooded.	Moderate; very severe if flooded: slow percolation rate.	Slight; moderate on slopes of more than 2 percent; severe if flooded.	Slight; moderate on slopes of more than 3 percent: erosion hazard.	Slight	Slight: moderate on slopes of more than 2 percent or if flooded.
Made land (Ma)	Severe; very severe if flooded: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Slight; severe if flooded.	Severe: wetness.	Severe; very severe if flooded: wetness.	Severe; very severe if flooded or on a slope: wetness.
Memphis (MeA, MeB, MeD2).	Slight	Slight	Slight; moderate on slopes of more than 2 percent.	Slight; moderate on slopes of more than 3 percent: erosion hazard.	Slight	Slight; moderate on slopes of more than 2 percent.
Mhoon (Mh, Mn, Ms) For interpretations of Sharkey component of Ms, see that series in this table.	Severe; very severe if flooded: wetness, fair bearing capacity, shrink-swell potential.	Very severe: slow percolation rate.	Slight; severe if flooded.	Severe: wetness, texture.	Severe: wetness.	Severe; very severe if flooded: wetness, texture.
Ochlockonee (Oc)	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods.	Severe: frequent floods.	Moderate: frequent floods.	Moderate: frequent floods.
Olivier (OlA, OlB)	Moderate; very severe if flooded: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Slight; severe if flooded.	Moderate: wetness.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Providence (PrB)	Slight	Moderate: slow percolation rate.	Slight; moderate on slopes of more than 2 percent.	Slight	Slight	Slight; moderate on slopes of more than 2 percent.

See footnote at end of table.

properties of the soils—Continued

Soil features adversely affecting—				Suitability as a source of—			
Embankments of roads and canals	Embankments of levees and dams	Land grading or shaping	Paved roads, airport landing strips, and parking areas	Road subgrade material (road fill)	Road subbase material	Sand or gravel	Topsoil
Very high erodibility, poor stability.	Poor strength, poor stability, poor resistance to piping.	Fair workability, wetness.	Wetness, very high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Poor.
Variable materials.	Variable materials.	Frequent floods, wetness, variable materials.	Frequent floods, wetness, variable material.	Fair	Not suitable	Not suitable	Good.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Slope	High erodibility, slope; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Good.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, poor to fair resistance to piping.	Wetness, fair workability.	Wetness, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Poor.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Slope	Slope, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Good.
Moderate erodibility, fair stability.	Fair strength, fair stability, moderate shrink-swell potential.	Fair workability, wetness.	Wetness; poor as subgrade material.	Poor	Not suitable	Not suitable	Poor.
Moderate erodibility, fair stability.	Fair stability, poor to fair resistance to piping, seepage.	None	Frequent floods	Fair to good	Generally fair: good material available below depth of 30 inches in some areas.	Good: sand or gravel available below depth of 30 inches in some areas.	Good.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, fair resistance to piping.	Wetness	Wetness, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Fair.
High erodibility, fair stability.	Fair to good strength, fair stability.	Slope	Slope, high erodibility.	Fair	Generally not suitable: fair material available below depth of 48 inches in some areas.	Not suitable	Fair.

TABLE 6.—*Interpretation of engineering*

Soil series and map symbols	Degree of limitation and chief limiting factors for—					
	Homesites	Septic tank filter fields	Sewage lagoons	Landscaping and gardening	Picnic areas and golf fairways	Playgrounds
Sharkey (Sc, Sk, Sh, Sm, SmB). For interpretations of Tunica component of Sk,Sm, and SmB, see that series in this table.	Severe; very severe if flooded: wetness, poor bearing capacity, shrink-swell potential.	Very severe: slow percolation rate.	Slight; severe if flooded.	Severe; very severe if flooded: texture, wetness.	Severe; very severe if flooded: wetness, texture.	Severe; very severe if flooded: wetness, texture.
Smoothed land, Dundee and Tensas materials (So).	Moderate: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Slight	Moderate: wetness, texture.	Moderate: wetness, texture.	Severe: wetness, texture.
Springfield (Sp, Sr) For interpretations of Olivier component of Sr, see that series in this table.	Moderate; very severe if flooded: wetness, fair bearing capacity, shrink-swell potential.	Very severe: slow percolation rate.	Slight; severe if flooded.	Moderate: wetness.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Tensas Mapped only with soils of Dundee and Sharkey series.	Severe: wetness, poor bearing capacity, shrink-swell potential.	Very severe: slow percolation rate.	Slight	Severe: texture, wetness.	Severe: wetness, texture.	Severe: wetness, texture.
Terrace escarpments (Te)	Moderate; severe on slopes of more than 20 percent: steep slopes.	Slight to very severe: slow percolation rate, steep slopes.	Moderate to very severe: steep slopes.	Severe to very severe: steep slopes, erosion hazard.	Moderate to severe: steep slopes.	Severe to very severe: steep slopes.
Tunica (Tn, Ts) For interpretations of Sharkey component of Ts, see that series in this table.	Severe; very severe if flooded: wetness, poor bearing capacity, shrink-swell potential.	Very severe: slow percolation rate, some areas flooded.	Slight; very severe if flooded.	Severe; very severe if flooded: texture, wetness.	Severe; very severe if flooded: wetness, texture.	Severe; very severe if flooded: wetness, texture.
Verdun (Vd, Ve, Vf) For interpretations of Deerford component of Ve and Fred component of Vf, see those series in this table.	Moderate; very severe if flooded: wetness, fair bearing capacity.	Very severe: slow percolation rate.	Moderate; severe if flooded: site material.[1]	Severe: high sodium content, wetness.	Moderate: wetness.	Moderate; severe if flooded: wetness.
Waverly (Wf) For interpretations of Falaya component, see that series in this table.	Very severe: frequent floods, wetness, low bearing capacity.	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: frequent floods, wetness.	Very severe: frequent floods, wetness.	Very severe: frequent floods, wetness.
Zachary (Za)	Very severe: frequent floods, wetness, poor to fair bearing capacity.	Very severe: frequent floods.	Very severe: frequent floods.	Very severe: wetness, frequent floods.	Very severe: frequent floods, wetness.	Very severe: frequent floods, wetness.

[1] The term "site material" indicates that the soil material is not favorable as embankment for sewage lagoons.

properties of the soils—Continued

Soil features adversely affecting—				Suitability as a source of—			
Embankments of roads and canals	Embankments of levees and dams	Land grading or shaping	Paved roads, airport landing strips, and parking areas	Road subgrade material (road fill)	Road subbase material	Sand or gravel	Topsoil
Fair stability	Poor strength, fair stability, high shrink-swell potential, subject to cracking.	Poor workability, wetness.	Wetness, frequent floods on Sk and Sm soils; very poor as subgrade material.	Very poor	Not suitable	Not suitable	Poor.
Variable materials.	Variable materials.	Variable materials, wetness.	Variable materials, wetness.	Poor	Not suitable	Not suitable	Poor.
Moderate erodibility, fair stability.	Fair to poor strength, fair stability, moderate shrink-swell potential.	Fair workability, wetness.	Wetness; poor as subgrade material.	Poor	Not suitable	Not suitable	Poor.
Fair stability	Poor strength, fair stability, moderate to high shrink-swell potential, subject to cracking.	Poor workability, wetness.	Wetness; very poor as subgrade material.	Very poor	Not suitable	Not suitable	Poor.
Variable materials.	Variable materials.	Variable materials, steep slopes.	Variable materials, steep slopes.	Fair	Not suitable	Not suitable	Poor to fair.
Fair stability	Poor strength, fair stability, moderate to high shrink-swell potential, subject to cracking.	Poor workability, wetness.	Wetness; very poor as subgrade material.	Very poor	Not suitable	Not suitable	Poor.
Very high erodibility, poor stability.	Poor strength, poor stability, poor resistance to piping.	Fair workability, wetness.	Wetness, very high erodibility; poor as subgrade material.	Poor	Not suitable	Not suitable	Poor.
Very high erodibility, poor stability.	Fair strength, poor stability, poor resistance to piping.	Wetness	Wetness, frequent floods, very high erodibility; fair as subgrade material.	Fair	Generally not suitable: fair to good material available below depth of 48 inches in some areas.	Poor: sand and gravel available below depth of 48 inches in some areas.	Poor.
High erodibility, poor to fair stability.	Fair strength, poor to fair stability, poor to fair resistance to piping.	Wetness	Wetness, frequent floods, high erodibility; poor to fair as subgrade material.	Poor to fair	Not suitable	Not suitable	Poor.

The rating of a soil as a source of sand and gravel is based on knowledge of the soils and on laboratory test data. Soils along the Amite River that have layers of sand and gravel below the surface are suitable sources of construction material.

The soils that are rated good as a source of topsoil material respond well to management designed to establish and maintain good turf. These soils normally have a thick layer of loamy material and are fairly high in organic-matter content. Soils that have a thin or clayey surface layer or a seasonal high water table are rated poor as topsoil material.

Formation and Classification of the Soils

This section discusses the factors of soil formation and tells how these factors have affected the soils in East Baton Rouge Parish. It also discusses the processes of soil formation and the classification of the soils according to the current system.

Factors of Soil Formation

Soils are formed by the interaction of climate, living organisms, relief, and parent material over a period of time. The relative importance of each of these factors varies from place to place.

Climate

East Baton Rouge Parish has a humid, subtropical climate, which is characteristic of areas near the Gulf of Mexico. The climate is uniform, except for local differences resulting from relief. The rainfall is relatively high, the humidity is high except in fall, and the temperatures are fairly high to moderate. As a result, some of the soils have developed rapidly and are strongly weathered, highly leached, and acid. Cahaba soils, for example, are intensively leached soils in which clay has moved downward from the surface layer and has accumulated to form a well-developed B horizon. Factors other than climate, such as texture, age of materials, and relief, also influence the degree of leaching and cause local differences among soils. Mhoon soils and other young soils of the flood plains are weakly developed because they have been exposed to the influence of the climate for only a short time.

Living organisms

Living organisms, including plants, bacteria, fungi, and burrowing animals, are the active forces in soil formation. Plants transfer nutrients from the subsoil to the surface soil and, when they die, supply organic matter to the soils. Micro-organisms then decompose the organic matter and help to improve the soil structure. Burrowing animals, crayfish, and earthworms also decompose organic matter and help to mix the uppermost layers of the soils.

The amount of organic matter that has accumulated in the soils of this parish generally is low to moderately low. The acid, silty Loring, Olivier, and Calhoun soils formed under a cover of dominantly mixed hardwood trees, which did not contribute large amounts of organic matter. Bonn and Verdun soils, which have an alkaline subsoil, may have developed under grasses, but the grasses were sparse because the exchangeable cation capacity is 15 to 40 percent sodium, and consequently the organic-matter content is moderately low to low. The dark-colored Jeanerette soils formed under a luxuriant growth of water-tolerant grasses and trees and consequently have moderately thick, dark-colored surface horizons fairly high in organic matter.

The soils of the flood plains, which formed recently, are under mixed hardwoods and vary considerably in organic-matter content. The coarse-textured Crevasse soils on the flood plains have a very small amount of organic matter. The wet soils, particularly Sharkey soils and other soils of the back swamps, have a moderate amount.

Relief

Relief and its effects on drainage have been important influences in the formation of the soils of this parish. Nearly level to gently sloping relief predominates, but there are level and concave areas and also steep escarpments.

Memphis, Dexter, and Cahaba soils are nearly level to gently sloping. Water percolates through these soils at a moderate rate; consequently, they are well drained and well oxidized and have a well-developed B2t horizon.

Loring, Freeland, and Providence soils are level to nearly level and are only slightly affected by runoff from other soils. Water moves freely through the uppermost 24 inches of these soils but is slowed by a fragipan below that depth. The layers above the fragipan are well oxidized and brown in color. There has been enough leaching and translocation of silicate clay minerals to form a B2t horizon of moderate structure.

Olivier soils are mainly level to nearly level and have slow runoff. The movement of water through these soils is obstructed by a fragipan. A B2t horizon has formed, but it is not so well developed as the B2t in better drained soils. A fluctuating perched water table has produced both brown oxidized colors and gray reduced colors in the Bt horizon.

Deerford, Verdun, and Springfield soils are level to nearly level and have slow runoff. Water percolates slowly because the upper layers are very slowly permeable. The Bt horizon is moderately thick. The subsoil and substratum are moderately well oxidized and are brownish in color.

Calhoun, Frost, and Zachary soils are flat or concave. They receive excess water as runoff from adjoining areas. The water table is near the surface for long periods. Runoff is slow to very slow, and some areas are subject to flooding. Percolation of water is obstructed. Because of the excess wetness, reduced compounds of iron predominate and the soils are gray.

Jeanerette soils are in low areas that stay wet for long periods. Conditions favor the accumulation of organic matter. These soils are dark colored in the upper part.

Waverly, Sharkey, Mhoon, Commerce, Ochlockonee, and Cascilla soils are on the flood plains. Waverly, Sharkey, and Mhoon soils are on the lowest part of the flood plains. They have a high water table, and some areas are flooded periodically. These soils are grayish below the surface layer. Commerce soils have free water below a depth of 24 inches for long periods. These soils also are dominantly gray. Ochlockonee and Cascilla soils are on the highest part of the flood plains. They are well drained but are subject to flooding.

On most parts of the steep terrace escarpments, no B horizon has developed, either because water does not percolate through the soil material or because erosion removes soil as fast as it forms. Small areas of Memphis and Loring soils occur in these areas, however.

Parent material

Parent material is the unconsolidated mineral mass from which soils form. The nature of the parent material determines the chemical and mineralogical composition of the soils and largely determines the degree of leaching, the reaction, texture, permeability, and drainage, and the kind and color of the A and B horizons. Textural differences in parent material are accompanied by differences in chemical and mineralogical composition. Sandy material is high in quartz and low in feldspar and in ferromagnesian minerals.

Loesslike material of uncertain age and alluvium are the parent materials of the soils of this parish.

Most of the acreage is made up of soils that formed in loesslike material and that have been largely leached of carbonates and soluble salts. In this group are the soils of the Memphis, Loring, Calhoun, Frost, Olivier, Providence, Dexter, Freeland, and Zachary series. These soils have an acid subsoil. Also derived from loesslike material are the Fountain, Essen, Fred, and Jeanerette soils. These soils have not been leached of carbonates, and they have an alkaline subsoil. A lesser acreage is made up of soils of the Bonn, Deerford, Lafe, and Verdun series, which formed in loesslike material but have not been leached of carbonates and contain considerable amounts of sodium and calcium. The sodium and calcium probably resulted from the decomposition of sodium and calcium feldspar in the loesslike material or from the evaporation of sea water. From 15 to 40 percent of the exchange capacity in the lower horizons of these soils is dominated by sodium.

Silty alluvium recently washed from acid soils on uplands was the parent material of the Cascilla, Falaya, and Waverly soils, which are acid and of silty texture throughout. Loamy alluvium was the parent material of the Cahaba and Ochlockonee soils. These soils are acid and are of sandy texture. Cahaba soils have a well-developed subsoil of sandy clay loam. The sandy Crevasse soils, the silty Dundee, Amagon, Commerce, and Mhoon soils, and the clayey Sharkey, Tunica, and Tensas soils formed in Mississippi River sediments.

Time

The differences in the length of time that parent materials have been exposed to the active forces of soil formation are commonly reflected in the degree of development of the soil profile.

The youngest parent materials in this parish are those deposited each year by overflowing streams and rivers. The oldest are the loesslike materials that blanket most of the parish.

The influence of time on soil formation is well illustrated by comparing the profiles of Memphis and Cascilla soils. Memphis soils formed in the oldest parent material in the parish. They have been leached of carbonates and other soluble salts and are strongly acid to very strongly acid. Colloidal clays have moved downward from the A horizon to form a strongly developed B horizon of silty clay loam. Some organic matter has accumulated in the A horizon. In contrast, Cascilla soils, which are uniformly brown silt loam, have not been in place long enough for well-developed horizons to form. The only indications of soil development are an A1 horizon that has been darkened by organic matter and a weakly developed B horizon.

Processes of Soil Formation

The older soils in this parish have distinct horizons, and the young soils have faint horizons. The degree of horizonation is the result of one or more of the following processes: (1) accumulation of organic matter, (2) leaching of soluble carbonates and bases, (3) reduction, solution, and transfer of iron and manganese, and (4) formation and translocation of silicate clay minerals.

In most soils in this parish, two or more of the processes have influenced the development of horizons. For example, an accumulation of organic matter and the reduction and transfer of iron are reflected in the faint horizons of Commerce, Mhoon, Waverly, and Sharkey soils. An accumulation of organic matter in the surface layer is about the only process reflected in the faint horizons of Ochlockonee soils.

Enough organic matter has accumulated to form an A1 horizon in most of the soils in the parish. Crevasse soils, which formed in fresh deposits of sand, lack organic matter, except as scattered pieces of plant debris. Jeanerette soils have a thick, dark-colored A1 horizon that is medium to high in organic-matter content. Memphis, Loring, Olivier, and Cahaba soils under forest have only a 2- to 3-inch A1 horizon that contains a moderate amount of organic matter, but most of these soils have been cultivated and contain only a small amount of organic matter.

Solution and leaching of carbonates and salts have occurred in all soils in the parish, but the degree of leaching and the extent of influence on horizon development vary. Most of the Memphis, Loring, Olivier, and Calhoun soils, which are on the terraces, have been thoroughly leached of soluble salts and carbonates and are acid in reaction. Cahaba and Ochlockonee soils, which are sandy and acid, formed in sediments that probably were leached and weathered before they were deposited. Leaching is continuous in Cahaba soils, and these soils are slightly more acid than Ochlockonee soils, which are younger.

Soils that have an alkaline to calcareous subsoil, such as Fred, Fountain, and Essen soils, contain much less calcium carbonate than they once did. The calcium carbonate content of these soils results from the weathering of silts high in content of calcium feldspar. These soils vary from place to place in the degree of leaching, and their surface layer ranges from medium acid to moderately alkaline in reaction. Some segregations of calcium carbonate occur at a depth of 18 to 36 inches. Frost and Springfield soils have a slightly acid to mildy alkaline substratum in many areas. Possibly, these highly leached soils were once high in content of carbonates.

Some of the soils in this parish have been little affected by leaching and have a moderately alkaline reaction. Verdun soils, for example, are high in sodium at the top of the Bt horizon. This clay deflocculates when wet and forms a seal that prevents excessive leaching. In some forested areas, Sharkey clay is moderately alkaline throughout because dense clay severely restricts leaching.

Sodium occurs at various depths in Verdun, Bonn, Lafe, and Deerford soils. In the B2t horizon of Lafe, Bonn, and Verdun soils and the lower part of the Bt horizon of Deerford soils, 15 to 40 percent of the exchangeable cations consists of sodium.

Calhoun, Fountain, Waverly, Zachary, Sharkey, and other poorly drained soils in this parish have horizons that developed mainly through reduction, solution, and transfer of iron and manganese, a process called gleization. In these soils, which are alternately wet and moist, the iron compounds are reduced to a soluble form, and gray or blue colors predominate, primarily because of the iron. If drainage is impeded or the water table is high, anaerobic micro-organisms remove oxygen from the water; this oxygen deficiency results in the reduction of iron and manganese. Fe^{+++} and Mn^{+++} are reduced to Fe^{++} and Mn^{++} and are thus more soluble. Fe^{++} and Mn^{++} may be leached from the soils, or they may rise to the surface of waterlogged soils and form segregated iron and manganese concretions. Iron and manganese concretions are present in all poorly drained and somewhat poorly drained soils in this parish. Gleyed horizons are present in all the poorly drained soils.

The formation and translocation of silicate clay minerals have contributed to horizon development in all soils of the parish except the youthful soils on flood plains. In this process, clay and iron compounds are removed from the uppermost soil layers. The bleached, light-colored A2 horizon of the Olivier and Calhoun soils is an example of an eluviated horizon from which iron compounds and clay have been removed. In many soils in the parish, a B2t horizon has formed through the accumulation of translocated colloidal or sesquioxide clays. The B2t horizon generally is finer textured than the A1, Ap, and A2 horizons. Memphis silt loam, for example, has an Ap horizon of silt loam, a B2t horizon of silty clay loam, and a C horizon of silt loam. A more obvious evidence of the downward movement of clay is the presence of clay films on the structural surfaces in the B2t horizon of many soils. Deerford, Verdun, and Fred soils are good examples of soils that have a well-developed B2t horizon with clay films on the peds.

Classification of the Soils

Soils are classified so that we can more easily remember their significant characteristics, assemble knowledge about them, see their relationship to one another and to the whole environment, and understand their behavior and their response to management. First through classification and then through use of soil maps, we can apply our knowledge of soils to specific fields and other tracts of land.

Two systems of classifying soils have been used in the United States in recent years. The older system was adopted in 1938 and revised later (*4*, *6*). The system used in this soil survey was adopted for general use by the National Cooperative Soil Survey in 1965 (*8*). It is under continual study. Readers interested in the development of the system should refer to the latest literature available (*3*).

In the course of the soil survey program, new soil series must be established and concepts of some established series, especially older ones that have been used little in recent years, must be revised. A proposed new series has tentative status until review of the series concept at National, State, and regional levels of responsibility for soil classification results in a judgment that the new series should be established. All of the soil series described in this publication except the Bonn, Deerford, Essen, Fountain, Fred, and Tensas series had been established earlier (*8*). The Bonn, Deerford, Essen, Fountain, Fred, and Tensas series had tentative status when the survey was sent to the printer.

As a result of studies made after this soil survey was completed, the Freeland series has been made inactive. Soils that were formerly called Freeland soils are currently called Loring or Providence soils.

The current system of classification has six categories. Beginning with the most inclusive, the categories are the order, the suborder, the great group, the subgroup, the family, and the series. The categories are defined in terms of observable or measurable properties of the soils. Table 7 shows the classification of the soils of East Baton Rouge Parish according to the current system (*8*). The placement of some series in the system, particularly the placement in families, may change as more precise information becomes available.

Following are brief descriptions of each of the six categories in the current system.

ORDER.—Ten soil orders are recognized: Entisols, Vertisols, Inceptisols, Aridisols, Mollisols, Spodosols, Alfisols, Ultisols, Oxisols, and Histosols. The orders are primarily broad climatic groupings. Two exceptions are the Entisols and Histosols, which include soils in many different climates. Five of the orders are represented in East Baton Rouge Parish—Entisols, Inceptisols, Mollisols, Alfisols, and Ultisols.

Entisols are young soils in which horizons are just beginning to develop. This order includes many of the soils previously called Alluvial soils and Regosols.

Inceptisols typically occur on flood plains and other youthful land surfaces. Many soils of this order were formerly called Alluvial soils and Low-Humic Gley soils.

Mollisols have a moderately thick, dark-colored surface layer. This order includes many of the soils formerly called Humic Gley soils.

Alfisols have a clay-enriched B horizon that is relatively high in bases. Included in this order are some soils that were formerly called Planosols, Low-Humic Gley soils, Gray-Brown Podzolic soils, and Solodized Solonetz soils.

Ultisols either are extremely weathered or have formed from extremely weathered parent material. They are acid and low in bases. Many of the soils in this order were formerly called Red-Yellow Podzolic soils.

SUBORDER.—Each order is divided into suborders, primarily on the basis of those soil characteristics that seem to produce classes having the greatest genetic similarity. The suborders have a narrower climatic range than the orders. The soil properties used to separate suborders reflect mainly either the presence or absence of waterlogging or differences resulting from the climate or vegetation.

GREAT GROUP.—Each suborder is divided into great groups, which are based on uniformity in kind and sequence of the major soil horizons and features. The horizons considered in making these separations are those that contain illuvial clay, iron, and humus; those that have a thick, dark-colored surface layer; and those in which a fragipan interferes with water movement and root development. The features considered are the self-mulching

TABLE 7.—*Classification of soil series*

Series	Family	Subgroup	Suborder	Order
Amagon	Fine-silty, mixed, thermic	Typic Ochraqualfs	Aqualfs	Alfisols.
Bonn	Fine-silty, mixed, thermic	Glossic Natraqualfs	Aqualfs	Alfisols.
Cahaba	Fine-loamy, siliceous, thermic	Typic Hapludults	Udults	Ultisols.
Calhoun	Fine-silty, mixed, thermic	Typic Glossaqualfs	Aqualfs	Alfisols.
Cascilla	Fine-silty, mixed, thermic	Fluventic Dystrochrepts	Ochrepts	Inceptisols.
Commerce	Fine-silty, mixed, nonacid, thermic	Aeric Fluventic Haplaquepts	Aquepts	Inceptisols.
Crevasse	Mixed, thermic	Typic Udipsamments	Psamments	Entisols.
Deerford	Fine-silty, mixed, thermic	Albic Glossic Natraqualfs	Aqualfs	Alfisols.
Dexter	Fine-silty, mixed, thermic	Typic Hapludalfs	Udalfs	Alfisols.
Dundee	Fine-silty, mixed, thermic	Aeric Ochraqualfs	Aqualfs	Alfisols.
Essen	Fine-silty, mixed, thermic	Aeric Ochraqualfs	Aqualfs	Alfisols.
Falaya	Coarse-silty, mixed, acid, thermic	Aeric Fluventic Haplaquepts	Aquepts	Inceptisols.
Fountain	Fine-silty, mixed, thermic	Typic Glossaqualfs	Aqualfs	Alfisols.
Fred	Fine-silty, mixed, thermic	Aquic Hapludalfs	Udalfs	Alfisols.
Freeland	Fine-silty, mixed, thermic	Typic Fragiudalfs	Udalfs	Alfisols.
Frost	Fine-silty, mixed, thermic	Typic Glossaqualfs	Aqualfs	Alfisols.
Jeanerette	Fine-silty, mixed, noncalcareous, thermic	Typic Argiaquolls	Aquolls	Mollisols.
Acid variant	Fine-silty, mixed, noncalcareous, thermic	Typic Argiaquolls	Aquolls	Mollisols.
Light-colored variant.	Fine-silty, mixed, thermic	Aeric Ochraqualfs	Aqualfs	Alfisols.
Lafe	Fine-silty, mixed, thermic	Glossic Natraqualfs	Aqualfs	Alfisols.
Loring	Fine-silty, mixed, thermic	Typic Fragiudalfs	Udalfs	Alfisols.
Memphis	Fine-silty, mixed, thermic	Typic Hapludalfs	Udalfs	Alfisols.
Mhoon	Fine-silty, mixed, nonacid, thermic	Fluventic Haplaquepts	Aquepts	Inceptisols.
Ochlockonee	Coarse-loamy, siliceous, acid, thermic	Typic Udifluvents	Fluvents	Entisols.
Olivier	Fine-silty, mixed, thermic	Aquic Fragiudalfs	Udalfs	Alfisols.
Providence	Fine-silty, mixed, thermic	Typic Fragiudalfs	Udalfs	Alfisols.
Sharkey	Very fine, montmorillonitic, nonacid, thermic.	Vertic Haplaquepts	Aquepts	Inceptisols.
Springfield	Fine, mixed, thermic	Aeric Albaqualfs	Aqualfs	Alfisols.
Tensas	Fine, montmorillonitic, thermic	Chromudertic Ochraqualfs	Aqualfs	Alfisols.
Tunica	Clayey over loamy, montmorillonitic, nonacid, thermic.	Vertic Haplaquepts	Aquepts	Inceptisols.
Verdun	Fine-silty, mixed, thermic	Glossic Natraqualfs	Aqualfs	Alfisols.
Waverly	Coarse-silty, mixed, acid, thermic	Fluventic Haplaquepts	Aquepts	Inceptisols.
Zachary	Fine-silty, mixed, thermic	Typic Albaqualfs	Aqualfs	Alfisols.

properties of some clays, the tonguing of an eluvial horizon into an illuvial horizon, and wide differences in the content of bases. The great groups are not shown separately in table 7, because they are identified by the last word in the name of the subgroup.

SUBGROUP.—Each great group is divided into subgroups, one representing the central (typic) segment of the group and others, called intergrades, that have properties of one great group and also one or more properties of another great group, suborder, or order. Subgroups may also be recognized in those instances where soil properties intergrade outside the range of any other great group, suborder, or order.

FAMILY.—Families are established within a subgroup primarily on the basis of properties important to the growth of plants or to the behavior of soils when they are used for engineering. Among the properties considered are texture, mineralogy, reaction, soil temperature, permeability, consistence, and thickness of horizons.

SERIES.—The series has the narrowest range of characteristics of the categories in the classification system. It is explained in the section "How This Soil Survey Was Made."

Laboratory Analysis of Selected Soils

Samples of selected soils in this parish were collected from pits and analyzed. Table 8 gives data obtained by physical and chemical analysis of these soils. Most of the samples were analyzed at the Louisiana Agricultural Experiment Station. The Verdun soil and sample S61La–17–1 of the Olivier soil were analyzed at the Soil Survey Laboratory of the Soil Conservation Service at Lincoln, Nebr. Table 9 gives data obtained by clay mineral analysis. The tests were made at Texas A & M University. Detailed descriptions of all the soils analyzed except the Olivier soil represented by sample No. S61La–17–16 are given in the section "Descriptions of the Soils."

The analysis reported in table 8 was made on ovendry material that was first air dried, rolled, and crushed and then was passed through a 2-millimeter, square-holed sieve. The experiment station and the soil survey laboratory used essentially the same procedures, except for determination of particle-size distribution and for determination of extractable calcium and magnesium. The experiment station used a modification of the Bouyoucos hydrometer procedure to determine particle-size distribution and did not treat the samples to destroy organic matter and concretions. The soil survey laboratory used the pipette method to determine particle size. The experiment station determined extractable bases on original ammonium acetate extracts with a Beckman DU flame spectrophotometer; the soil survey laboratory determined calcium as calcium oxalate and magnesium as magnesium ammonium phosphate.

TABLE 8.—*Physical and*

[Except as footnoted, the tests were performed by the Louisiana Agricultural Experiment Station.

Soil type and sample No.	Horizon	Depth	Particle-size distribution			Water content at tension of—	
			Sand (2.0–0.05 mm.)[1]	Silt (0.05–0.002 mm.)	Clay (<0.002 mm.)	1/3 bar	15 bar
		In.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Bonn silt loam (S3).	A1	0 to 1	--------	--------	--------	--------	--------
	A21	1 to 3	14. 2	76. 6	9. 2	--------	--------
	A22	3 to 8	13. 8	74. 7	11. 5	--------	--------
	A&B	8 to 12	11. 5	75. 3	13. 2	--------	--------
	B&A	12 to 16	11. 1	76. 1	12. 8	--------	--------
	B21tg	16 to 36	11. 2	66. 0	22. 8	--------	--------
	B22tg	36 to 42	10. 2	67. 0	22. 2	--------	--------
Cahaba sandy loam (S61La-17-52).	Ap	0 to 4	67. 5	28. 5	4. 0	--------	--------
	A2	4 to 10	62. 2	21. 8	6. 0	--------	--------
	A2&B	10 to 13	51. 6	36. 2	12. 2	--------	--------
	B21t	13 to 19	40. 4	32. 8	27. 0	--------	--------
	B22t	19 to 26	51. 4	26. 4	22. 2	--------	--------
	B3	26 to 34	77. 4	12. 4	10. 2	--------	--------
	IIC1	34 to 42	86. 1	9. 3	4. 6	--------	--------
	IIC2	42 to 52	97. 3	1. 2	1. 9	--------	--------
Calhoun silt loam (S5).	Ap	0 to 3	17. 8	72. 2	10. 0	--------	--------
	A2g	3 to 12	18. 2	69. 6	12. 2	--------	--------
	A&B	12 to 20	16. 6	67. 9	15. 5	--------	--------
	B2tg	20 to 30	13. 0	57. 0	30. 0	--------	--------
	Cg	30 to 42	15. 0	57. 2	27. 8	--------	--------
Deerford silt loam (S62La-17-44).	Ap	0 to 3	14. 9	76. 3	8. 8	--------	--------
	A2	3 to 6	15. 0	76. 5	8. 5	--------	--------
	A&B	6 to 10	13. 9	65. 1	21. 0	--------	--------
	B21t	10 to 20	12. 1	56. 1	31. 8	--------	--------
	B22t	20 to 34	11. 6	63. 9	24. 5	--------	--------
	B3t	34 to 49	11. 0	68. 8	20. 2	--------	--------
Essen silt loam (S62La-17-43).	Ap1	0 to 3	11. 5	70. 3	18. 2	--------	--------
	Ap2	3 to 6	11. 1	70. 1	18. 8	--------	--------
	B1	6 to 14	10. 4	64. 6	25. 0	--------	--------
	B2t	14 to 28	9. 2	61. 8	29. 0	--------	--------
	B3t	28 to 51	10. 4	71. 3	18. 3	--------	--------
Fountain silt loam (S62La-17-42).	Ap1	0 to 6	10. 0	69. 5	20. 5	--------	--------
	Ap2	6 to 10	10. 5	70. 5	19. 0	--------	--------
	B&A	10 to 20	9. 4	68. 4	22. 2	--------	--------
	B2tg	20 to 45	12. 0	59. 2	28. 8	--------	--------
	C	45 to 51	14. 0	65. 8	20. 2	--------	--------
Fred silt loam (S62La-17-41).	Ap	0 to 6	14. 6	67. 9	17. 5	--------	--------
	A2	6 to 9	14. 8	68. 2	17. 0	--------	--------
	A&B	9 to 10	13. 0	59. 2	27. 8	--------	--------
	B21t	10 to 18	11. 5	59. 5	29. 0	--------	--------
	B22tca	18 to 26	11. 1	64. 7	24. 2	--------	--------
	B3ca	26 to 32	9. 0	68. 0	23. 0	--------	--------
	C	32 to 51	10. 0	72. 2	17. 8	--------	--------
Frost silt loam (S62La-17-45).	A1	0 to 3	23. 5	62. 7	13. 8	--------	--------
	A2	3 to 11	23. 2	63. 2	13. 6	--------	--------
	B&A	11 to 20	20. 6	60. 6	18. 8	--------	--------
	B21tg	20 to 32	17. 8	48. 7	33. 5	--------	--------
	B22tg	32 to 38	18. 4	51. 4	30. 2	--------	--------
	B23tg	38 to 52	18. 6	52. 4	29. 0	--------	--------
Loring silt loam (S62La-17-48).	Ap1	0 to 4	9. 9	78. 1	12. 0	--------	--------
	Ap2	4 to 6	8. 2	77. 0	14. 8	--------	--------
	A2	6 to 11	8. 4	70. 8	20. 8	--------	--------
	B21t	11 to 22	8. 4	62. 6	29. 0	--------	--------
	B22tx	22 to 36	8. 2	64. 6	27. 2	--------	--------
	B3x	36 to 52	8. 0	71. 0	21. 0	--------	--------

See footnotes at end of table.

chemical test data

Dashed lines indicate that analysis was not made or that less than a minimum amount was reported]

Bulk density	Extractable bases (meq./100 gm. of soil)				Extractable acidity	Cation exchange capacity NH_4OAc	Organic carbon	Reaction	Extractable iron as Fe	Available phosphorus
	Ca	Mg	Na	K						
Gm./cc.					*Meq./100 gm. of soil*	*Meq./100 gm. of soil*	*Pct.*	*pH*	*Pct.*	*Parts per million*
--------	4.7	2.0	0.7	0.1	4.0	21.8	4.06	5.0	----------	17
--------	1.4	1.0	.6	.1	4.0	7.2	.85	5.2	----------	3
--------	1.4	1.5	.9	.1	4.3	8.9	.67	5.1	----------	5
--------	2.5	2.4	1.9	.1	1.8	9.0	.39	5.6	----------	3
--------	2.9	3.2	3.0	.1	.4	9.6	.08	6.9	----------	2
--------	5.7	5.9	6.1	.2	.4	18.3	.04	7.6	----------	54
--------	5.9	2.9	6.6	.2	.4	18.4	0	7.8	----------	106
--------	.5	.9	.1	.2	1.6	5.6	.32	5.0	----------	98
--------	.4	.7	.1	.2	1.6	2.2	.13	4.8	----------	75
--------	.4	1.0	.1	.4	2.4	4.4	.16	4.8	----------	36
--------	1.9	2.1	.2	.5	4.4	9.2	.14	5.1	----------	5
--------	1.5	1.7	.2	.3	3.6	7.9	.08	5.2	----------	5
--------	.6	1.1	.1	.1	1.2	3.2	.03	5.2	----------	8
--------	.1	.7	.1	.1	.1	1.9	.02	5.3	----------	8
--------	.1	.4	.1	.1	----------	.5	.01	5.6	----------	6
--------	4.5	1.2	.4	.2	2.2	9.0	1.34	5.9	----------	10
--------	4.5	1.2	.4	.1	1.4	8.2	.32	6.3	----------	4
--------	3.8	1.4	.6	.1	2.2	9.4	.17	5.4	----------	3
--------	7.6	3.2	1.1	.2	3.2	19.6	.10	5.1	----------	1
--------	7.6	4.2	1.7	.2	1.8	18.0	.08	5.6	----------	2
--------	1.8	1.0	.4	.1	3.0	5.5	.35	5.9	----------	10
--------	1.8	1.4	.4	.1	2.4	5.5	.34	5.9	----------	8
--------	2.3	3.0	1.2	.1	5.2	10.4	.27	5.2	----------	4
--------	3.6	4.6	2.2	.2	8.0	17.2	.29	5.3	----------	5
--------	4.7	7.1	3.9	.2	.8	16.3	.10	7.6	----------	12
--------	4.6	5.9	2.9	.2	.3	12.7	.06	7.8	----------	134
--------	5.0	5.5	.2	.2	1.2	13.3	.63	6.2	----------	30
--------	5.2	6.1	.3	.2	1.0	13.8	.52	7.0	----------	22
--------	6.3	8.1	.6	.2	.6	15.1	.15	8.0	----------	5
--------	6.2	9.5	.9	.2	----------	18.8	.11	8.0	----------	7
--------	5.8	6.6	.5	.2	----------	13.4	.04	8.1	----------	180
--------	6.0	4.5	.5	.2	.4	13.9	.49	7.2	----------	55
--------	6.0	6.1	.4	.2	.4	13.5	.50	7.4	----------	52
--------	6.6	7.2	.6	.2	----------	15.2	.15	8.1	----------	20
--------	10.1	8.9	.7	.3	.4	20.2	.06	8.2	----------	40
--------	7.0	6.9	.5	.3	.6	16.6	.02	8.0	----------	265
--------	5.7	3.7	.3	.3	2.0	14.1	.46	6.7	----------	13
--------	5.2	3.5	.4	.2	2.0	12.3	.33	6.7	----------	13
--------	7.1	6.0	.4	.3	2.4	19.6	.27	6.8	----------	2
--------	8.0	5.8	.3	.3	1.6	21.0	.26	7.2	----------	2
--------	9.2	5.8	.2	.3	.7	17.6	.10	8.0	----------	1
--------	8.4	5.8	.2	.2	.4	14.5	.05	8.2	----------	1
--------	7.7	4.5	.2	.2	----------	12.1	.03	8.3	----------	17
--------	3.8	2.1	.3	.1	2.6	10.5	1.04	5.4	----------	18
--------	3.1	1.4	.3	.1	2.0	8.3	.26	5.4	----------	5
--------	3.9	2.6	.4	.1	3.2	11.2	.33	5.1	----------	5
--------	6.9	6.3	.5	.2	4.4	22.4	.24	5.1	----------	4
--------	7.6	7.5	.6	.2	1.6	20.0	.10	5.5	----------	4
--------	7.5	7.1	.8	.2	1.2	19.2	.07	5.8	----------	7
--------	3.1	1.4	.4	.1	1.6	6.2	.56	6.5	----------	10
--------	3.1	1.9	.3	.1	2.8	7.2	.46	6.0	----------	7
--------	2.3	1.7	.4	.1	2.7	7.3	.16	5.5	----------	12
--------	1.2	4.0	.5	.3	5.8	12.1	.15	5.2	----------	9
--------	1.1	4.1	.5	.3	5.0	11.7	.06	5.2	----------	8
--------	1.1	3.9	.6	.2	4.8	11.2	.04	5.2	----------	15

TABLE 8.—*Physical and*

Soil type and sample No.	Horizon	Depth	Particle-size distribution			Water content at tension of—	
			Sand (2.0–0.05 mm.)[1]	Silt (0.05–0.002 mm.)	Clay (<0.002 mm.)	1/3 bar	15 bar
		In.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Memphis silt loam (S62La-17-54).	Ap1	0 to 4	12.1	78.9	9.0	--------	--------
	Ap2	4 to 8	9.5	79.5	11.0	--------	--------
	B21t	8 to 18	7.0	63.5	29.5	--------	--------
	B22t	18 to 36	8.2	64.4	27.5	--------	--------
	B3	36 to 48	6.2	67.8	26.0	--------	--------
	C	48 to 58	9.0	72.0	19.0	--------	--------
Olivier silt loam (S61La-17-1).[2]	Ap	0 to 6	2.7	89.0	8.3	20.5	5.0
	A2	6 to 9	2.2	78.5	19.3	--------	9.0
	B21t	9 to 15	2.0	72.3	25.7	--------	11.3
	B22t	15 to 22	2.6	70.6	26.9	27.0	12.3
	Bx1	22 to 30	2.4	72.1	25.5	--------	11.6
	Bx2&A'2x	30 to 37	2.5	75.8	21.5	26.1	10.8
	Bx3&A'2x	37 to 52	2.7	77.6	19.7	--------	10.2
	B'x	52 to 64	2.4	78.2	19.4	22.3	8.8
Olivier silt loam (S61La-17-16).	Ap1	0 to 5	12.5	81.5	6.0	--------	--------
	Ap2	5 to 7	13.8	80.7	5.5	--------	--------
	A&B	7 to 9	9.5	74.5	16.0	--------	--------
	B2t	9 to 17	10.2	61.6	28.2	--------	--------
	Bx1&A'2x	17 to 22	10.6	59.6	29.8	--------	--------
	Bx2&A'2x	22 to 32	11.0	68.2	20.8	--------	--------
	Bx3&A'x	32 to 42	12.0	67.0	21.0	--------	--------
Verdun silt loam (S61La-17-10).[2]	A1	0 to 4	6.6	85.9	7.5	20.3	5.1
	A2	4 to 6	5.9	82.7	11.4	--------	6.1
	B21t	6 to 11	2.9	66.1	31.0	--------	16.3
	B22t	11 to 19	1.8	65.6	32.7	--------	18.2
	B3	19 to 35	1.7	71.6	26.7	28.4	15.8
	C1	35 to 48	2.1	74.0	24.0	24.6	15.3
	C2	48 to 60	1.8	73.4	23.8	--------	13.2

[1] The sand fraction of Bonn, Calhoun, Deerford, Essen, Fountain, Fred, Loring, Memphis, and Olivier (sample No. S61La-17-16) soils consists dominantly of Fe-Mn concretions.

Both agencies determined the water content at ⅓ bar[7] tension on natural soil pieces by using a pressure plate, and the water content at 15 bar tension on sieved samples by using a pressure membrane. Bulk density was determined on clods equilibrated by absorption at 30 centimeters of water tension (approximate field capacity). The triethanolamine method was used to determine extractable acidity. The cation exchange capacity was determined by direct distillation of adsorbed ammonia. Organic carbon was determined by wet combustion, using a modification of the Walkley-Black method. The measurements of pH were made by glass electrode on a 1:1 soil-water solution. Iron was extracted with sodium hydrosulfite and was determined by titration with standard potassium dichromate. Available phosphorus was determined by the Bray strong acid method.

The estimates of dominant clay minerals in the clay fraction (material smaller than 0.002 millimeter) for the soils listed in table 9 were made by Dr. George Caldwell, professor of agronomy, Louisiana State University. These estimates were based on X-ray diffraction of samples prepared by Dr. Caldwell and analyzed in the laboratory of Dr. G. W. Kunze at Texas A&M University.

Interpretations of Data[8]

All the soils analyzed except Fred, Essen, and Fountain soils are acid in at least one horizon. Memphis, Loring, Olivier, and Calhoun soils are more acid in the subsoil than in the plow layer. The distribution of exchangeable cations in these acid soils is about that normally to be expected.

Although Bonn soils are acid in the surface layer, they have a fairly high sodium content, which ranges from 15 to 35 percent of the cation exchange capacity in the lower horizons. The sodium content of Deerford and Verdun soils increases considerably with depth. It ranges from 15 to 25 percent of the cation exchange capacity in the lower horizons of Deerford soils, and from 14 to 43 percent in the Verdun soils. Fountain and Essen soils are alkaline

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[7] A bar is about 0.987 atmosphere of pressure.

[8] DR. A. G. CALDWELL, professor of agronomy, Louisiana State University, prepared this section.

chemical test data—Continued

Bulk density	Extractable bases (meq./100 gm. of soil)				Extractable acidity	Cation exchange capacity NH_4OAc	Organic carbon	Reaction	Extractable iron as Fe	Available phosphorus
	Ca	Mg	Na	K						
Gm./cc.					*Meq./100 gm. of soil*	*Meq./100 gm. of soil*	*Pct.*	*pH*	*Pct.*	*Parts per million*
--------	3.5	2.0	.3	1.6	1.8	8.7	1.13	6.5	----------	265
--------	3.2	1.6	.3	.9	2.0	7.3	.64	6.3	----------	274
--------	4.4	3.6	.2	1.6	3.2	12.5	.33	6.0	----------	278
--------	4.8	3.6	.4	.6	4.0	13.1	.18	5.3	----------	64
--------	4.5	3.6	.4	.4	3.0	11.6	.15	5.4	----------	67
--------	4.1	2.9	.4	3	2.6	10.4	..07	5.5	----------	112
1.46	4.4	.6	.2	.1	4.8	6.2	.78	5.8	1.4	----------
--------	5.4	1.1	.2	.1	4.3	8.5	.24	5.6	1.5	----------
--------	5.4	2.1	.3	.2	6.7	10.7	.22	5.2	2.0	----------
1.40	3.7	2.4	.3	.2	9.4	11.6	.15	5.0	2.4	----------
--------	2.5	3.0	.3	.2	9.4	11.2	.11	4.9	2.5	----------
1.44	1.9	3.2	.3	.2	8.7	10.5	.07	5.0	2.5	----------
--------	2.1	3.4	.3	.2	8.2	10.8	.03	5.2	2.0	----------
1.52	2.9	3.8	.3	.2	6.7	10.8	.01	5.4	1.5	----------
--------	.8	.5	.2	.4	3.2	4.7	.47	5.0	----------	60
--------	.8	.5	.2	.3	2.8	4.5	.26	5.1	----------	35
--------	1.9	1.0	.4	.2	3.2	8.0	.10	4.8	----------	7
--------	2.4	2.6	.5	.3	5.8	12.8	.16	4.8	----------	5
--------	1.8	3.5	.8	.3	6.4	14.5	.15	5.0	----------	5
--------	1.4	3.0	.7	.2	4.6	12.1	.07	5.0	----------	6
--------	2.4	4.1	.6	.2	4.0	12.1	.05	5.2	----------	13
1.46	2.8	1.2	.4	.1	4.0	6.4	1.50	5.7	2.0	----------
--------	3.5	1.4	1.3	.1	3.0	7.4	.70	6.8	2.3	----------
--------	7.7	4.4	5.2	.2	3.3	17.6	.71	7.5	1.5	----------
--------	8.7	6.4	6.6	.2	1.4	19.5	.28	8.2	1.7	----------
1.48	6.4	5.4	6.2	.2	1.2	16.8	.10	8.1	1.6	----------
1.46	6.4	5.2	5.5	.2	1.2	16.2	.05	8.0	1.4	----------
--------	6.7	5.0	4.8	.2	.9	15.7	.04	7.9	1.2	----------

[2] Analysis made by the Soil Survey Laboratory of the Soil Conservation Service at Lincoln, Nebr.

and exhibit some of the characteristics of high sodium content, but they have a low percentage of saturation. Soils such as these may once have been sodium saturated but have lost their sodium and are now dominated by magnesium.

Except for the Cahaba and Memphis soils, which have been fertilized heavily, the soils analyzed are low in extractable phosphorus. There is an increase in extractable phosphorus in some of the lower horizons. Some of this increase may be caused by mineral apatite, which weathers slowly and releases phosphorus that plants can use.

The particle-size distribution of the soils analyzed indicates that all except Cahaba soils are silty. The clay content generally is low in the surface layer but is high enough in the B horizon of most of the soils to make the texture clay loam or silty clay loam.

The clay fraction (material less than 2 microns in size) was separated from selected horizons. Dr. G. W. Kunze at Texas A&M University ran X-ray diffraction scans on the ethylene-glycol solvated, magnesium-saturated clays and on the potassium-saturated clays. Table 9 shows that montmorillonite is the dominant clay mineral in most of the soils and especially in the neutral to alkaline soils and the soils that have a finer textured subsurface layer. Illite, or hydrous mica, occurs in all soils and is abundant in Olivier and Loring soils. Through weathering, this mineral releases exchangeable potassium and tends to maintain fertility over the years.

Kaolinite occurs in all the soils and is abundant in Calhoun soils. It is more abundant than illite in Deerford and Calhoun soils. A 14-angstrom mineral, probably vermiculite, is the most abundant kind of clay in Cahaba soils and is present in small amounts in several of the other soils. The clay fraction of all the soils contains a small amount of quartz.

The swelling characteristics of montmorillonite may account for the poor drainage of some of these soils and for the retention of sodium in the Deerford and Bonn soils.

None of the soils that formed in Mississippi River alluvium were analyzed, but on the basis of data obtained from soils in other parishes, one would expect these clay soils to be high in montmorillonite and fairly high in illite. The abundance of illite probably accounts for the amount of potassium in these soils.

TABLE 9.—*Clay mineral data*

[Dashed lines indicate that determination was made but none of the mineral was detected]

Soil type and sample number	Horizon	Depth from surface	Mineral content of clay fraction				
			Montmorillonite	Illite	Kaolinite	Vermiculite or chlorite	Quartz
		Inches	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Bonn silt loam (S3).	A21	1 to 3	<10	<10	10 to 40	40+	<10
	A&B	8 to 12	40+	<10	10 to 40	10 to 40	<10
	B21tg	16 to 36	40+	<10	10 to 40	----------	<10
	B22tg	36 to 42	40+	10 to 40	10 to 40	----------	<10
Cahaba sandy loam (S61La-17-52).	Ap	0 to 4	----------	10 to 40	10 to 40	10 to 40	<10
	A2&B	10 to 13	----------	10 to 40	10 to 40	10 to 40	<10
	B22t	19 to 26	----------	10 to 40	10 to 40	10 to 40	<10
Calhoun silt loam (S5).	Ap	0 to 3	40+	10 to 40	10 to 40	<10	<10
	A&B	12 to 20	40+	10 to 40	40+	----------	<10
	Cg	30 to 42	40+	10 to 40	40+	----------	<10
Deerford silt loam (S62La-17-44).	Ap	0 to 3	10 to 40	10 to 40	10 to 40	10 to 40	<10
	A&B	6 to 10	10 to 40	10 to 40	10 to 40	10 to 40	----------
	B22t	20 to 34	40+	10 to 40	10 to 40	----------	----------
Essen silt loam (S62La-17-43).	Ap1	0 to 3	40+	10 to 40	10 to 40	----------	<10
	B1	6 to 14	40+	10 to 40	10 to 40	----------	<10
	B3t	28 to 51	40+	10 to 40	10 to 40	----------	----------
Fountain silt loam (S62La-17-42).	Ap1	0 to 6	40+	10 to 40	10 to 40	----------	----------
	B&A	10 to 20	40+	10 to 40	10 to 40	----------	<10
	C	45 to 51	40+	10 to 40	10 to 40	----------	<10
Fred silt loam (S62La-17-41).	Ap	0 to 6	40+	10 to 40	10 to 40	<10	<10
	A&B	9 to 10	40+	10 to 40	10 to 40	<10	<10
	B22tca	18 to 26	40+	10 to 40	10 to 40	----------	----------
	C	32 to 51	40+	10 to 40	10 to 40	----------	----------
Loring silt loam (S62La-17-48).	Ap1	0 to 4	10 to 40	40+	10 to 40	10 to 40	<10
	A2	6 to 11	10 to 40	40+	10 to 40	10 to 40	<10
	B22tx	22 to 36	40+	10 to 40	10 to 40	10 to 40	<10
Memphis silt loam (S62La-17-54).	Ap1	0 to 4	40+	10 to 40	10 to 40	----------	<10
	B21t	8 to 18	40+	10 to 40	10 to 40	----------	<10
	B3	36 to 48	10 to 40	10 to 40	10 to 40	<10	----------
Olivier silt loam (S61La-17-16).	Ap1	0 to 5	----------	10 to 40	<10	10 to 40	<10
	A&B	7 to 9	----------	40+	10 to 40	10 to 40	<10
	Bx1&A'2	17 to 22	40+	10 to 40	10 to 40	<10	<10
	Bx3&A'2	32 to 42	40+	10 to 40	10 to 40	10 to 40	----------

General Nature of the Parish

East Baton Rouge Parish was established in 1811. The western part of the parish, which includes the city of Baton Rouge and its deep-water harbor, is now an important industrial center. In 1960, the population of the parish totaled 230,058. In 1965, a local survey listed the population of the city of Baton Rouge as 195,780. Louisiana State University and the Louisiana Agricultural Experiment Station are at Baton Rouge. Southern University and A & M College is at Scotlandville.

Physiography

East Baton Rouge Parish has three major physiographic features: the level and nearly level flood plain of the Mississippi River; the level and nearly level silt-mantled areas of the Prairie formation; and the gently sloping, silt-mantled areas of the Montgomery formation. Both the Prairie formation and the Montgomery formation are of Pleistocene age.

The Mississippi River flood plain is made up of recent alluvium. It has low natural levees; narrow depressions, which are former channels; and broad, swampy depressions. About half of the acreage occurs along the northwestern border of the parish. This area is not protected from overflow and is flooded two or more times each year, usually in spring. The area in the southern part of the parish has been protected from floods since about 1812, when levees were built. Also in this part of the parish are low natural levees, shallow swales, and broad back swamps. Some of the large back swamps lack drainage outlets.

The border of Profit Island and the riverbanks are gently sloping and moderately sloping in most places and have natural levees of sandy and silty sediments. There are large depressions, or back swamps, near the edge of the Prairie and Montgomery formations. The back swamps are flooded frequently and include numerous large and small lakes.

Level and nearly level areas of the Prairie formation make up most of the parish. They border the major streams. The elevation is 25 feet at Kleinpeter, 45 feet at

College Hills, 60 feet at Baton Rouge, 65 feet at Central, 70 feet at Baker, and 90 to 100 feet at Port Hudson. There is a southeasterly slope of 2.5 to 1.5 feet per mile.

Gently sloping, silt mantled areas of the Montgomery formation occur mainly as a series of ridges along the northern border of the parish. They are dissected in places by both broad and narrow valleys of the Prairie formation. The ridges are 20 to 40 feet above these valleys. The elevation is 100 to 130 feet at Plains in the northwestern part of the parish, 125 feet at the parish line north of Zachary, 125 feet at Chaneyville School, and 140 feet in the northeastern part of the parish. There is a southeasterly slope of about 8 feet per mile.

The overall drainage pattern of the parish is toward the southeast. The Comite River drains the north-central and northwestern parts, the Amite River drains the eastern part, and Bayou Manchac drains the southern part. Minor tributaries of the Mississippi River drain a small acreage in the northwestern part of the parish.

Agriculture

According to the U.S. Census of Agriculture, the total number of farms decreased from 1,704 in 1954 to 1,085 in 1964, and the average size of farms increased from 80 acres to 140.4 acres in the same period. The percentage of farmland used for crops decreased from about 30 percent in 1944 to 11 percent in 1964.

At the present time, more of the acreage is in pasture, hay, and feed crops than in cultivated crops. In 1964, cotton was grown on 94 acres, corn on 2,162 acres, oats for grain on 742 acres, hay on 11,039 acres, sweetpotatoes on 288 acres, sugarcane for sugar on 102 acres, and sorghum on 312 acres. There were 5,893 improved pecan trees of bearing age. Almost 7,000 pounds of improved pecans was harvested in 1964.

The raising of beef cattle and dairy cattle is a major enterprise on farms, and there are several large commercial dairies. Many herds consist of high-quality purebred stock. Livestock on farms in 1964 included 40,961 cattle and calves (4,438 were milk cows), 738 sheep, and 2,202 swine.

Most of the corn, oats, and hay is used for feed on the farms. Volunteer pasture, improved pasture, and supplemental pasture are harvested by grazing.

Climate

East Baton Rouge Parish has a humid, subtropical climate characterized by relatively high rainfall. More than 4 inches of rain falls in every month except September and October. Summers generally are hot and humid. The prevailing winds come from the Gulf of Mexico. The maximum temperature is 90° F. or higher about five-sixths of the days in July and August, but temperatures over 100° are rare. Winters are usually mild. Only about 16 days each year have a minimum temperature of 32° or lower. Moist, tropical air from the south and dry, polar air from the north alternate in winter. Extremely cold weather seldom lasts for more than 3 or 4 days.

Table 10 gives data on temperature and precipitation recorded at the U.S. Weather Bureau Airport Station at Baton Rouge.

The average date of the first temperature of 32° or lower in winter is November 22, and the average date of the last in spring is February 20. The growing season is about 276 days.

The average annual rainfall is 54.6 inches. Rainfall is sufficient for growing a wide variety of cultivated crops

TABLE 10.—*Temperature and precipitation data*

[All data from U.S. Weather Bureau Airport Station at Baton Rouge, La., for the period 1931-60]

Month	Temperature				Precipitation		
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—	
			Maximum temperature equal to or higher than—	Minimum temperature equal to or lower than—		Less than—	More than—
	°F.	*°F.*	*°F.*	*°F.*	*In.*	*In.*	*In.*
January	63	42	79	26	4. 8	2. 0	7. 5
February	65	45	80	30	4. 4	1. 8	6. 9
March	71	50	83	34	4. 9	1. 4	8. 7
April	78	58	86	43	4. 8	2. 2	7. 9
May	84	64	91	55	4. 8	1. 3	9. 1
June	90	70	95	65	4. 1	1. 6	9. 0
July	91	72	96	69	6. 3	2. 7	10. 7
August	91	72	96	67	5. 3	1. 6	9. 9
September	88	67	95	57	3. 5	1. 0	5. 8
October	81	56	90	43	2. 5	. 4	5. 4
November	70	46	83	30	4. 1	1. 2	8. 6
December	64	43	79	28	5. 1	2. 7	8. 2
Year	78	57	[1] 98	[2] 21	54. 6	39. 7	70. 8

[1] Average annual highest temperature.

[2] Average annual lowest temperature.

and pasture plants, but the amount is inadequate during some periods of the year and excessive in others. Rainfall generally is in the form of showers. Prolonged rains are infrequent and usually occur in winter. Warm, moist air favors thundershowers in summer. Heavy rains, usually of short duration, are caused by tropical cyclones.

Snow is not common. An inch or two falls at times, usually in February. Hail occurs rarely and only in localized areas in spring and fall.

The relative humidity averages 73 percent at Baton Rouge. It is highest at night and lowest in the afternoon, when the temperature is highest. The humidity is 80 percent or higher about half the time and is less than 50 percent about one-eighth of the time. The lowest relative humidity (less than 25 percent) occurs in winter after an influx of cold air.

About 40 percent of the days are cloudy; 1 out of 4 is clear, and the rest are partly cloudy. The cloud cover is slightly less in summer than in winter.

The average windspeed is less than 10 miles per hour, and strong winds are not common. Locally damaging winds have been associated with cold fronts in winter, thunderstorms in summer, and dissipating tropical cyclones in autumn.

Water Supply

East Baton Rouge Parish derives an abundance of water from the Mississippi River, the Amite River, the Comite River, and numerous other streams, ponds, tanks, and lakes. Wells dug to a depth of 40 to 100 feet penetrate water-bearing gravel along the Amite River, the Comite River, and other streams and provide water for home use on many farms. Most farmers provide water for livestock by constructing tanks and ponds.

Deep wells produce large quantities of water for home, city, and industrial uses. Wells dug to a depth of 2,200 to 2,800 feet in the deltaic deposits of Miocene age produce 1,000 to 2,000 gallons per minute of soft water containing sodium bicarbonate. Wells in deltaic sands of Pliocene age produce 1,000 gallons per minute from a depth of 300 to 600 feet. Wells in the Pleistocene deposits produce 1,800 to 3,000 gallons of soft water per minute (*2*). Because of heavy withdrawals for city and industrial uses, the water level has dropped as much as 140 feet along the western and southern parts of the parish.

Industries

In 1964, about 30.8 million tons of cargo moved through the port at Baton Rouge. Because the harbor is deep and water transportation is cheap, Baton Rouge and East Baton Rouge Parish are favorable sites for industrial development and expansion.

Petroleum and chemical industries are of major importance. A large oil refinery is located just north of Baton Rouge, and there are three producing oilfields in the parish. North of Baton Rouge are acres of oil-storage tanks. Many people are employed in the construction and maintenance of pipelines that carry oil, gas, and water.

Aluminum ore imported from South America and other sources is refined at a plant near the river north of Baton Rouge. Also imported by water freight and used in industry are salt, sulfur, limestone, gravel, sand, and other raw materials. Manufactured products include plastics, alcohol, caustic soda and other industrial chemicals, synthetic rubber, and cement. There are fertilizer plants, dairies, meat-processing plants, feed mills, and plants that process cement products and lumber. Louisiana State University owns a sugar refinery.

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Glossary

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available water capacity. The capacity of a soil to hold water in a form available to plants. Amount of moisture held in soil between field capacity, or about one-third atmosphere of tension, and the wilting coefficient, or about 15 atmospheres of tension.

Clay. As a soil separate, mineral particles less than 0.002 millimeter in diameter. As a textural class, soil that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrations of compounds, or of soil grains cemented together. The composition of some concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are examples of material commonly found in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent; will not hold together in a mass.

Friable.—When moist, soil crushes easily under gentle to moderate pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, soil crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, soil is readily deformed by moderate pressure but can be pressed into a lump; forms a wire when rolled between thumb and forefinger.

Sticky.—When wet, soil adheres to other material; tends to stretch somewhat and pull apart, rather than to pull free from other material.

Hard.—When dry, soil moderately resists pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, soil breaks into powder or individual grains under very slight pressure.

Cemented.—Hard and brittle; little affected by moistening.

Flooding. Inundation of the land by water as a result of stream overflow, runoff from adjacent areas or accumulation from local rainfall.

Fragipan. A loamy, brittle subsurface horizon that is very low in organic matter and clay but is rich in silt or very fine sand. The layer is seemingly cemented when dry, has a hard or very hard consistence, and has a high bulk density in comparison with the horizon or horizons above it. When moist, the fragipan tends to rupture suddenly if pressure is applied, rather than to deform slowly. The layer is generally mottled, is slowly or very slowly permeable to water, and has few or many bleached fracture planes that form polygons. Fragipans are a few inches to several feet thick; they generally occur 15 to 40 inches below the surface.

Horizon, soil. A layer of soil, approximately parallel to the soil surface, that has distinct characteristics produced by soil-forming processes.

A horizon. The mineral horizon at the surface or just below an O horizon. This horizon is the one in which living organisms are most active, and it is therefore marked by the accumulation of humus. The horizon may have lost one or more of soluble salts, clay, and sesquioxides (iron and aluminum oxides).

B horizon. The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has (1) distinctive characteristics caused by accumulation of clay, sesquioxides, humus, or some combination of these; (2) prismatic or blocky structure; (3) redder or stronger colors than the A horizon; or (4) some combination of these. The combined A and B horizons are usually called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon. The weathered rock material immediately beneath the solum. This layer, commonly called the soil parent material, is presumed to be like that from which the overlying horizons were formed in most soils. If the underlying material is known to be different from that in the solum, a Roman numeral precedes the letter C.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. It may be limited either by the infiltration capacity of the soil or by the rate at which water is applied to the surface soil.

Loess. A fine-grained, wind-transported deposit consisting dominantly of silt-size particles.

Mapping unit. Areas of soil of the same kind outlined on the soil map and identified by a symbol.

Mottled. Irregularly marked with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: Abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are these: *fine,* less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; *medium,* ranging from 5 millimeters to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and *coarse,* more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

Natural drainage. Drainage that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven different classes of natural drainage are recognized.

Excessively drained soils are commonly very porous and rapidly permeable and have a low water-holding capacity.

Somewhat excessively drained soils are also very permeable and are free from mottling throughout their profile.

Well drained soils are nearly free from mottling and are commonly of intermediate texture.

Moderately well drained soils commonly have a slowly permeable layer in or immediately beneath the solum. They have uniform color in the A and upper B horizons and have mottling in the lower B and the C horizons.

Somewhat poorly drained soils are wet for significant periods but not all the time. If podzolic, they commonly have mottling below a depth of 6 to 16 inches in the lower A horizon and in the B and C horizons.

Poorly drained soils are wet for long periods and are light gray and generally mottled from the surface downward, although mottling may be absent or nearly so in some soils.

Very poorly drained soils are wet nearly all the time. They have a dark-gray or black surface layer and are gray or light gray, with or without mottling, in the deeper parts of the profile.

Parent material. The horizon of weathered rock or partly weathered soil material from which soil has formed; horizon C in the soil profile.

Permeability. The quality that enables a soil to transmit water and air. Terms used to describe permeability are *very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

Phase, soil. A subdivision of a soil type, series, or other unit in the soil classification system, made because of differences that affect the management of soils but not their classification. A soil type, for example, may be divided into phases because of differences in slope, stoniness, thickness, or some other characteristic that affects management.

Plowpan. A compacted layer formed in the soil immediately below the plowed layer.

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. An acid, or "sour," soil is one that gives an acid reaction; an alkaline soil is one that is alkaline in reaction. The degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Mildly alkaline	7.4 to 7.8
Very strongly acid	4.5 to 5.0	Moderately alkaline	7.9 to 8.4
Strongly acid	5.1 to 5.5	Strongly alkaline	8.5 to 9.0
Medium acid	5.6 to 6.0	Very strongly alkaline	9.1 and higher
Slightly acid	6.1 to 6.5		
Neutral	6.6 to 7.3		

Relief. The elevations or inequalities of a land surface, considered collectively.

Runoff. The part of the precipitation upon a drainage area that is discharged from the area in stream channels. The water that flows off the land surface without sinking in is called surface runoff; that which enters the ground before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz, but sand may be of any mineral composition. As a textural class, soil that is 85 percent or more sand and not more than 10 percent clay.

Seepage. Slow escape of water from a soil along an extensive line of surface.

Series, soil. A group of soils having genetic horizons that, except for texture of the surface layer, are similar in differentiating characteristics and in arrangement in the profile.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Soil. A natural, three-dimensional body on the earth's surface that supports plants. Soil has properties resulting from the integrated effect of climate and living matter acting upon parent material, as conditioned by relief, over periods of time.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are (1) *single grain* (each grain by itself, as in dune sand) or (2) *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the profile below plow depth.

Substratum. Any layer lying beneath the solum, or true soil.

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, about 5 to 8 inches in thickness. The plowed layer.

Terrace (geological). An old alluvial plain, ordinarily flat or undulating, bordering a river, lake, or the sea. Stream terraces are frequently called second bottoms, as contrasted to flood plains, and are seldom subject to overflow. Marine terraces were deposited by the sea and are generally wide.

Terrace (to control erosion). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that it may soak into the soil or flow slowly to a prepared outlet without harm. Terraces in fields are generally built so they can be farmed. Terraces intended mainly for drainage have a deep channel that is maintained in permanent sod.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Type, soil. A subdivision of a soil series, made on the basis of differences in the texture of the surface layer.

Variant, soil. Really a separate soil series, but of too small known extent to justify establishment as a new series.

[For a full description of a mapping unit, read both the description of the mapping

[See table 1, page 6, for approximate acreage and proportionate extent of the soils. For woodland suitability groups, see table 3, page 46. For wildlife suitability turn to the section beginning on page 48]

Map symbol	Mapping unit	Described on page	Capability unit		Woodland suitability group	Wildlife suitability group
			Symbol	Page	Number	Number
CaB	Cahaba sandy loam, 1 to 3 percent slopes	9	IIe-1	41	2	3
Cc	Calhoun silt loam	9	IIIw-4	43	1	1
Cf	Calhoun-Bonn and Fountain silt loams	9				
	Calhoun soil	--	IIIw-3	42	1	1
	Bonn soil	--	IIIw-3	42	5	1
	Fountain soil	--	IIIw-3	42	5	1
Cl	Cascilla silt loam, undulating, overflow	10	Vw-1	43	4	4
Co	Commerce loam	11	I-1	40	6	2
Cr	Crevasse soils, overflow	11	Vw-2	43	6	4
De	Deerford silt loam	12	IIw-4	41	5	2
DfA	Deerford-Olivier silt loams, 0 to 1 percent slopes	13				
	Deerford soil	--	IIw-4	41	5	2
	Olivier soil	--	IIw-4	41	2	2
DfB	Deerford-Olivier silt loams, 1 to 3 percent slopes	13				
	Deerford soil	--	IIw-3	41	5	3
	Olivier soil	--	IIw-3	41	2	3
Dn	Deerford-Verdun silt loams	13	IIIs-1	43	5	2
DrA	Dexter very fine sandy loam, 0 to 1 percent slopes	14	I-2	40	2	3
DrB	Dexter very fine sandy loam, 1 to 3 percent slopes	14	IIe-1	41	2	3
DuA	Dundee-Amagon complex, 0 to 1 percent slopes	15	IIIw-1	42	6	1
DuB	Dundee-Amagon complex, undulating	15	IIIw-1	42	6	1
DyB	Dundee-Tensas-Sharkey complex, undulating	15	IIIw-1	42	6	1
En	Essen silt loam	16	IIw-4	41	5	2
Es	Essen and Lafe silt loams	16	IIIs-1	43	5	2
Fn	Fountain silt loam	18	IIIw-3	42	5	1
Fo	Fountain and Bonn silt loams	18	IIIw-3	42	5	1
Fr	Fred silt loam	19	I-2	40	5	2
Fs	Fred-Deerford silt loams	19	IIw-4	41	5	2
FvA	Freeland very fine sandy loam, 0 to 1 percent slopes	20	I-2	40	2	3
FvB	Freeland very fine sandy loam, 1 to 3 percent slopes	20	IIe-1	41	2	3
Fw	Frost silt loam	21	IIIw-4	43	1	1
Je	Jeanerette silt loam	21	IIw-1	41	5	2
Jn	Jeanerette silt loam, acid variant	24	Vw-1	43	4	4
Jr	Jeanerette silt loam, light-colored variant	23	IIw-1	41	5	1
Jt	Jeanerette-Frost silt loams	22				
	Jeanerette soil	--	IIIw-4	43	5	2
	Frost soil	--	IIIw-4	43	1	2

UNITS

unit and the description of the soil series to which the mapping unit belongs.

See table 2, page 44, for estimated yields per acre of the principal crops. groups, see page 48. For facts about the engineering properties of the soils,

Map symbol	Mapping unit	Described on page	Capability unit		Woodland suitability group	Wildlife suitability group
			Symbol	Page	Number	Number
Jv	Jeanerette, light-colored variant-Frost silt loams	23				
	Jeanerette soil	--	IIIw-4	43	5	1
	Frost soil	--	IIIw-4	43	1	1
La	Lafe silt loam	24	IIIs-1	43	5	2
Lm	Loamy alluvial land and Mhoon soils, overflow	25	Vw-2	43	6	4
LoA	Loring silt loam, 0 to 1 percent slopes	25	I-2	40	3	3
LoB	Loring silt loam, 1 to 3 percent slopes	25	IIe-1	41	3	3
LoC2	Loring silt loam, 3 to 5 percent slopes, eroded	26	IIIe-1	42	3	3
LoD2	Loring silt loam, 5 to 8 percent slopes, eroded	26	IIIe-1	42	3	3
Ma	Made land	26	IIIw-4	43	1	1
MeA	Memphis silt loam, 0 to 1 percent slopes	27	I-2	40	3	3
MeB	Memphis silt loam, 1 to 3 percent slopes	27	IIe-1	41	3	3
MeD2	Memphis silt loam, 3 to 8 percent slopes, eroded	27	IIIe-1	42	3	3
Mh	Mhoon silty clay	28	IIIw-2	42	6	1
Mn	Mhoon silty clay loam	28	IIw-5	41	6	1
Ms	Mhoon-Sharkey complex	28	IIIw-2	42	6	1
Oc	Ochlockonee fine sandy loam, overflow	29	Vw-1	43	4	4
OlA	Olivier silt loam, 0 to 1 percent slopes	30	IIw-2	41	2	2
OlB	Olivier silt loam, 1 to 3 percent slopes	30	IIw-3	41	2	3
PrB	Providence silt loam, 1 to 3 percent slopes	31	IIe-1	41	3	3
Sc	Sharkey clay	31	IIIw-2	42	6	1
Sh	Sharkey silty clay loam	32	IIIw-2	42	6	1
Sk	Sharkey-Tunica association, overflow	32	Vw-2	43	6	4
Sm	Sharkey-Tunica clays, overflow	32	Vw-2	43	6	4
SmB	Sharkey-Tunica clays, undulating	32	IIIw-2	42	6	1
So	Smoothed land, Dundee and Tensas materials	32	IIIw-1	42	6	1
Sp	Springfield silt loam	33	IIIw-5	43	2	2
Sr	Springfield-Olivier silt loams	33	IIIw-5	43	2	2
Te	Terrace escarpments	34	VIe-1	43	3	3
Tn	Tunica clay	35	IIIw-2	42	6	1
Ts	Tunica-Sharkey clays	35	IIIw-2	42	6	1
Vd	Verdun silt loam	36	IIIs-1	43	5	2
Ve	Verdun-Deerford silt loams	37	IIIs-1	43	5	2
Vf	Verdun-Fred silt loams	37	IIIs-1	43	5	2
Wf	Waverly-Falaya silt loams, overflow	38	Vw-1	43	4	4
Za	Zachary silt loam	38	Vw-1	43	4	4

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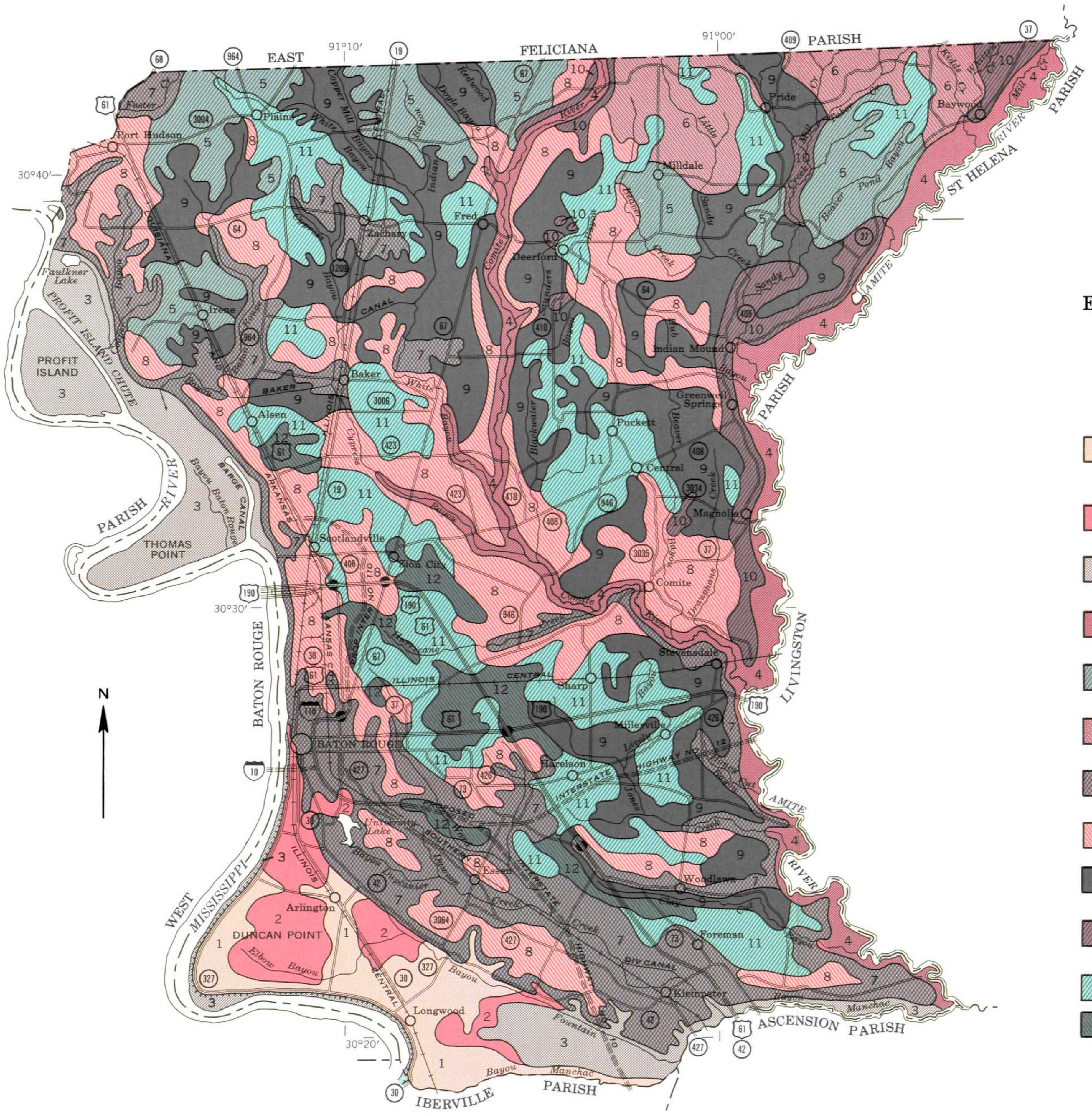


U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
LOUISIANA AGRICULTURAL EXPERIMENT STATION

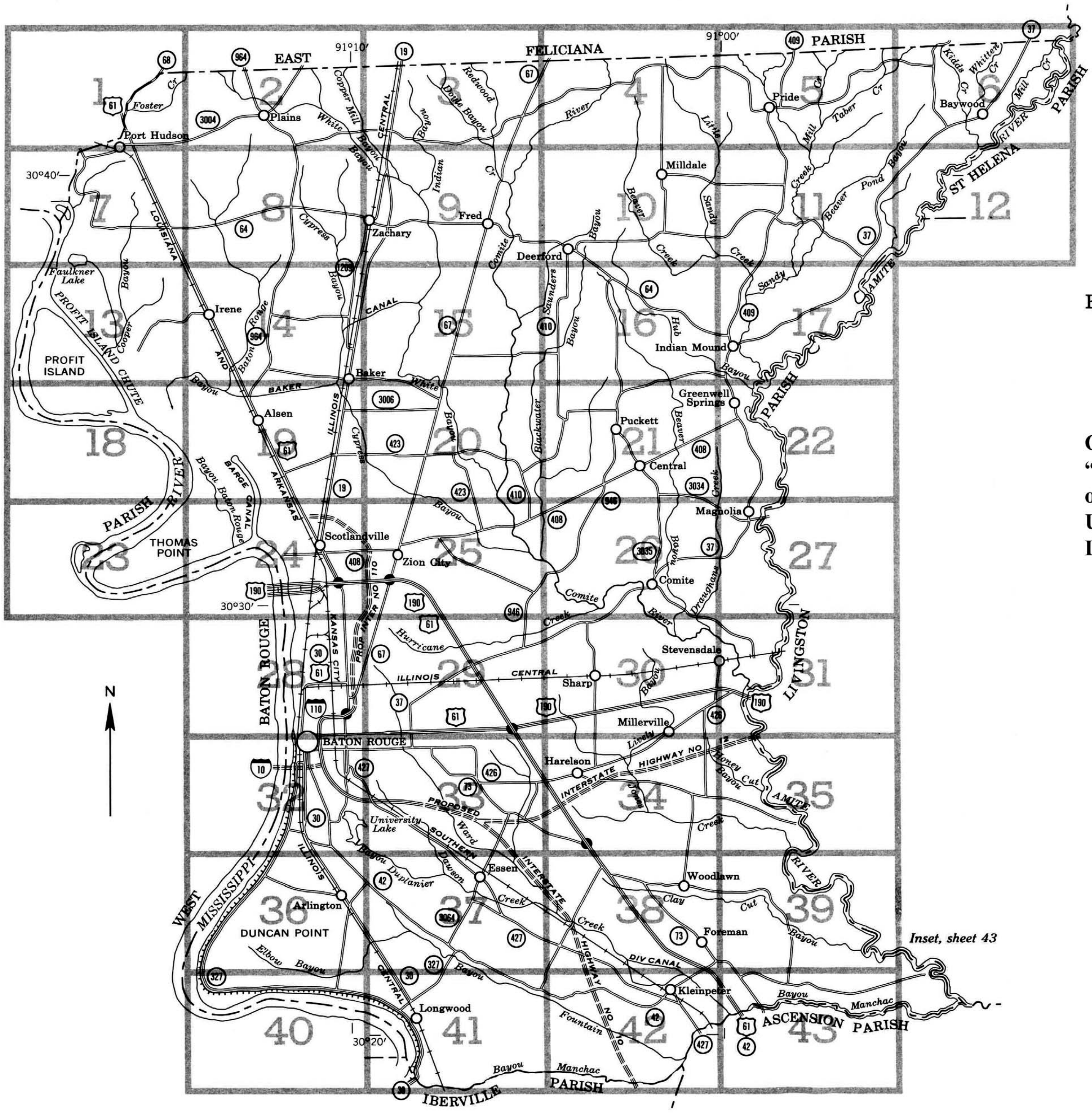
GENERAL SOIL MAP
EAST BATON ROUGE PARISH, LOUISIANA

SCALE IN MILES
1 0 1 2 3 4

SOIL ASSOCIATIONS

1	Mhoon-Commerce association: Dominantly level, poorly drained and somewhat poorly drained, loamy soils on broad natural levees of the Mississippi River flood plain; protected from overflow
2	Sharkey-Tunica association: Level or nearly level, poorly drained, clayey soils of the Mississippi River flood plain; protected from overflow
3	Sharkey-Mhoon-Crevasse association: Poorly drained to excessively drained, clayey, loamy, and sandy soils of the Mississippi River flood plain; subject to overflow
4	Cascilla-Ochlockonee association: Level or nearly level, well-drained, loamy soils on flood plains of the Amite River, the Comite River, and tributaries of these; subject to overflow
5	Olivier-Loring association: Nearly level to gently sloping, somewhat poorly drained and moderately well drained, loamy soils on ridges and in broad valleys
6	Olivier-Providence association: Nearly level to gently sloping, somewhat poorly drained and moderately well drained, loamy soils on ridges that have long side slopes
7	Olivier-Loring-Terrace escarpments association: Level to gently sloping, somewhat poorly drained and moderately well drained, loamy soils and steep escarpments
8	Olivier-Calhoun-Loring association: Dominantly level, poorly drained to moderately well drained, loamy soils on broad flats and in slight depressions
9	Calhoun-Zachary-Frost association: Level or nearly level, poorly drained, loamy soils on broad flats and in depressions
10	Freeland-Loring-Olivier association: Level to sloping, moderately well drained and somewhat poorly drained, loamy soils on natural levees above the flood plain of the Amite River, the Comite River, and smaller streams
11	Deerford-Verdun association: Level or nearly level, somewhat poorly drained, loamy soils that have a high content of sodium
12	Jeanerette association: Dark-colored, somewhat poorly drained, loamy soils, chiefly in depressions

August 1967



INDEX TO MAP SHEETS
EAST BATON ROUGE PARISH, LOUISIANA

SCALE IN MILES
1 0 1 2 3 4

Original text from each map sheet:
"This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Louisiana Agricultural Experiment Station."

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

EAST BATON ROUGE PARISH, LOUISIANA

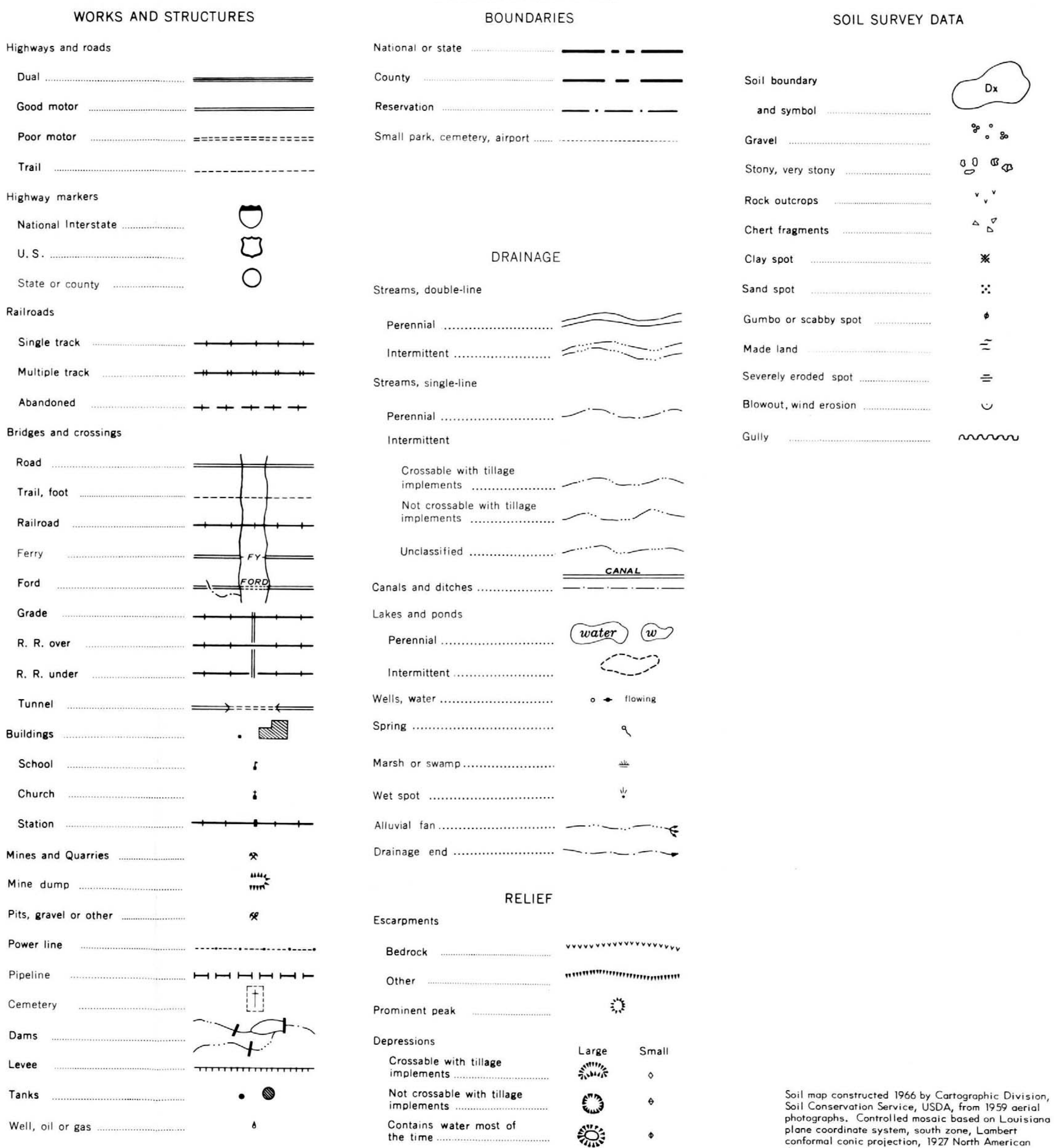
LOUISIANA AGRICULTURAL EXPERIMENT STATION

SOIL LEGEND

The first capital letter is the initial one of the soil name. A second capital letter, A, B, C, or D, shows the slope. Symbols without a slope letter are for nearly level soils and land types. Soils that are eroded have a final number, 2, in their symbol.

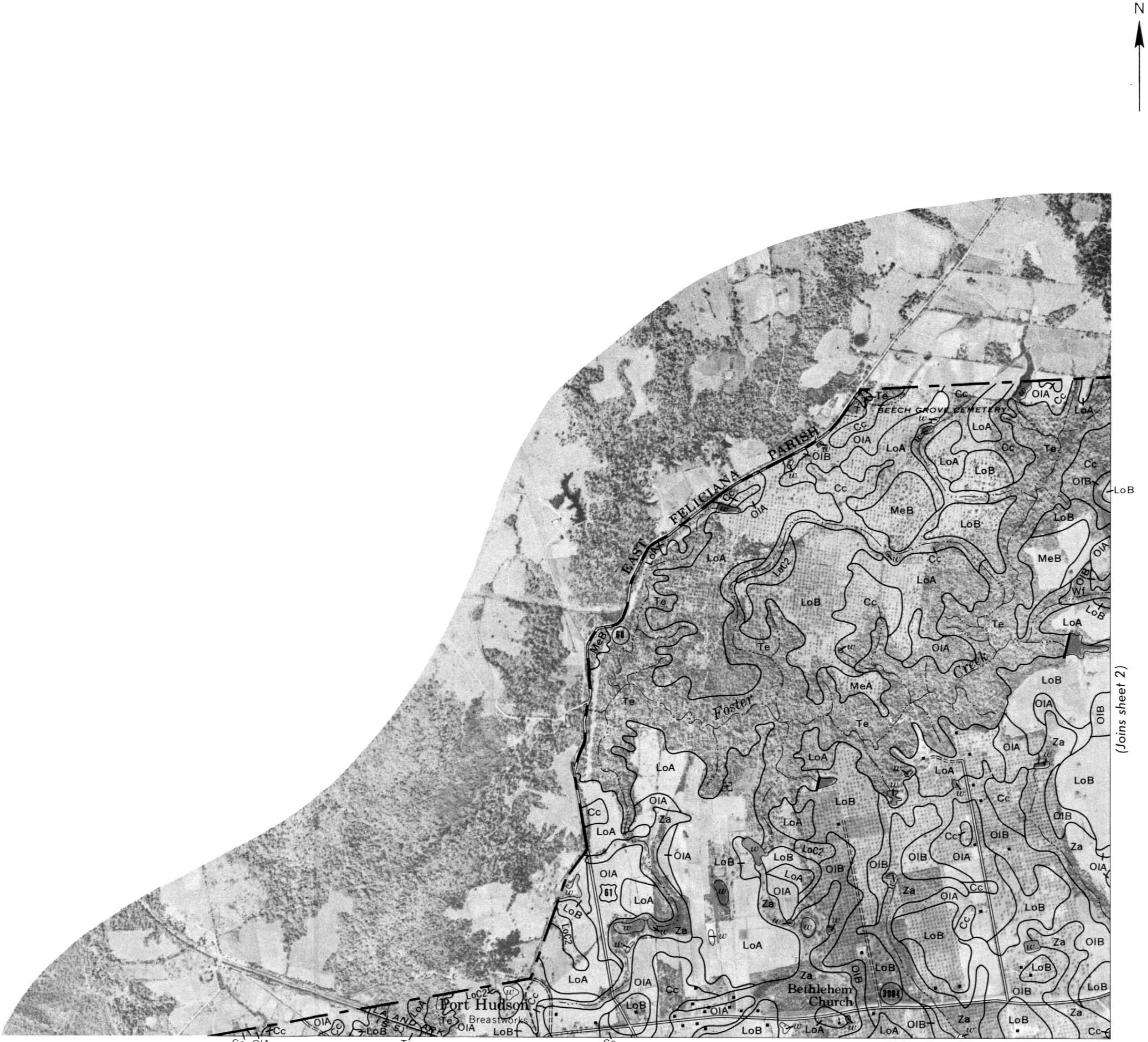
SYMBOL	NAME
CaB	Cahaba sandy loam, 1 to 3 percent slopes
Cc	Calhoun silt loam
Cf	Calhoun–Bonn and Fountain silt loams
Cl	Cascilla silt loam, undulating, overflow
Co	Commerce loam
Cr	Crevasse soils, overflow
De	Deerford silt loam
DfA	Deerford–Olivier silt loams, 0 to 1 percent slopes
DfB	Deerford–Olivier silt loams, 1 to 3 percent slopes
Dn	Deerford–Verdun silt loams
DrA	Dexter very fine sandy loam, 0 to 1 percent slopes
DrB	Dexter very fine sandy loam, 1 to 3 percent slopes
DuA	Dundee–Amagon complex, 0 to 1 percent slopes
DuB	Dundee–Amagon complex, undulating
DyB	Dundee–Tensas–Sharkey complex, undulating
En	Essen silt loam
Es	Essen and Lafe silt loams
Fn	Fountain silt loam
Fo	Fountain and Bonn silt loams
Fr	Fred silt loam
Fs	Fred–Deerford silt loams
FvA	Freeland very fine sandy loam, 0 to 1 percent slopes
FvB	Freeland very fine sandy loam, 1 to 3 percent slopes
Fw	Frost silt loam
Je	Jeanerette silt loam
Jn	Jeanerette silt loam, acid variant
Jr	Jeanerette silt loam, light–colored variant
Jt	Jeanerette–Frost silt loams
Jv	Jeanerette, light–colored variant–Frost silt loams
La	Lafe silt loam
Lm	Loamy alluvial land and Mhoon soils, overflow
LoA	Loring silt loam, 0 to 1 percent slopes
LoB	Loring silt loam, 1 to 3 percent slopes
LoC2	Loring silt loam, 3 to 5 percent slopes, eroded
LoD2	Loring silt loam, 5 to 8 percent slopes, eroded
Ma	Made land
MeA	Memphis silt loam, 0 to 1 percent slopes
MeB	Memphis silt loam, 1 to 3 percent slopes
MeD2	Memphis silt loam, 3 to 8 percent slopes, eroded
Mh	Mhoon silty clay
Mn	Mhoon silty clay loam
Ms	Mhoon–Sharkey complex
Oc	Ochlockonee fine sandy loam, overflow
OlA	Olivier silt loam, 0 to 1 percent slopes
OlB	Olivier silt loam, 1 to 3 percent slopes
PrB	Providence silt loam, 1 to 3 percent slopes
Sc	Sharkey clay
Sh	Sharkey silty clay loam
Sk	Sharkey–Tunica association, overflow
Sm	Sharkey–Tunica clays, overflow
SmB	Sharkey–Tunica clays, undulating
So	Smoothed land, Dundee and Tensas materials
Sp	Springfield silt loam
Sr	Springfield–Olivier silt loams
Te	Terrace escarpments
Tn	Tunica clay
Ts	Tunica–Sharkey clays
Vd	Verdun silt loam
Ve	Verdun–Deerford silt loams
Vf	Verdun–Fred silt loams
Wf	Waverly–Falaya silt loams, overflow
Za	Zachary silt loam

CONVENTIONAL SIGNS



Soil map constructed 1966 by Cartographic Division, Soil Conservation Service, USDA, from 1959 aerial photographs. Controlled mosaic based on Louisiana plane coordinate system, south zone, Lambert conformal conic projection, 1927 North American datum.

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 1



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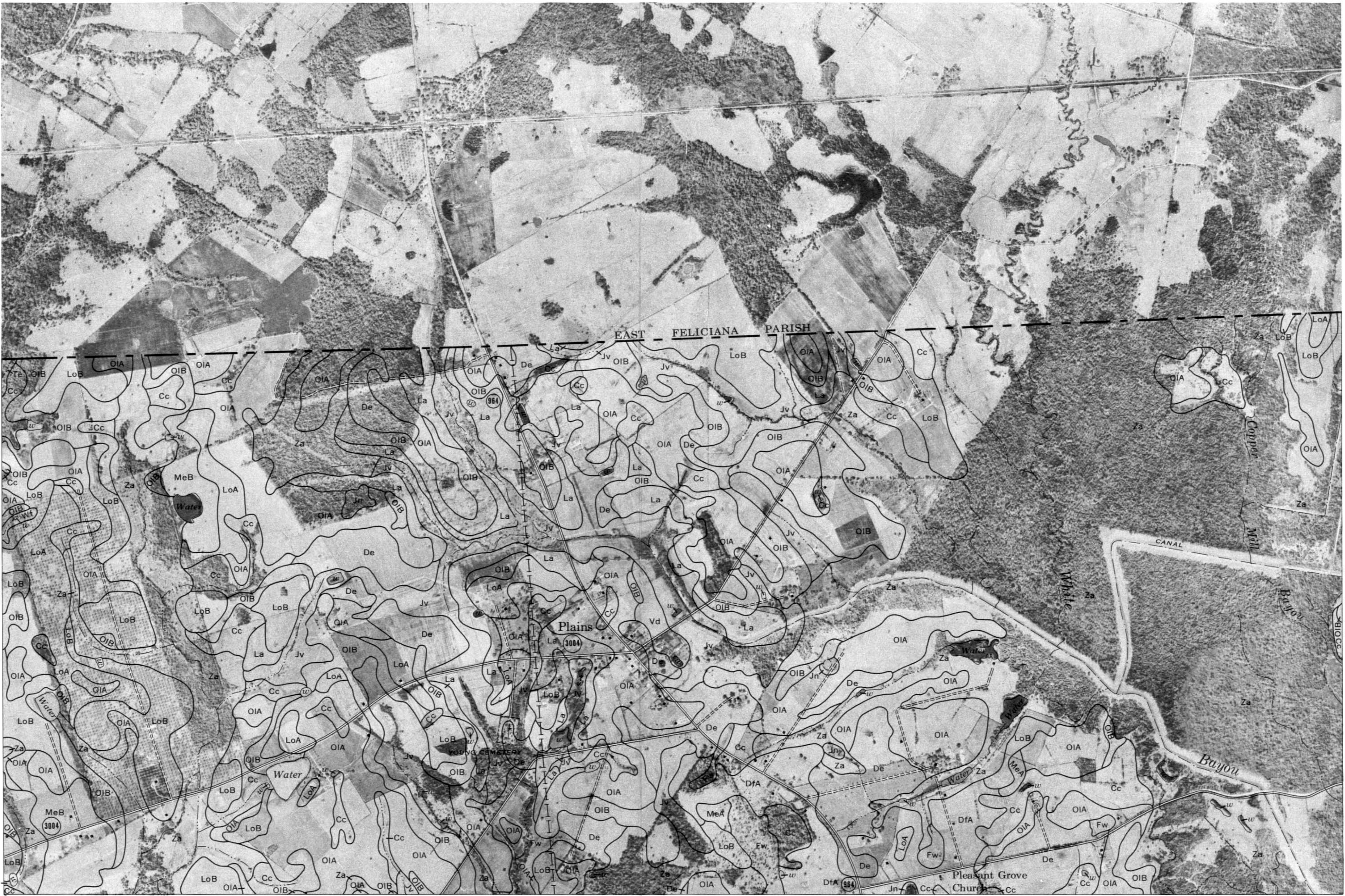
(Joins sheet 7)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

②

N



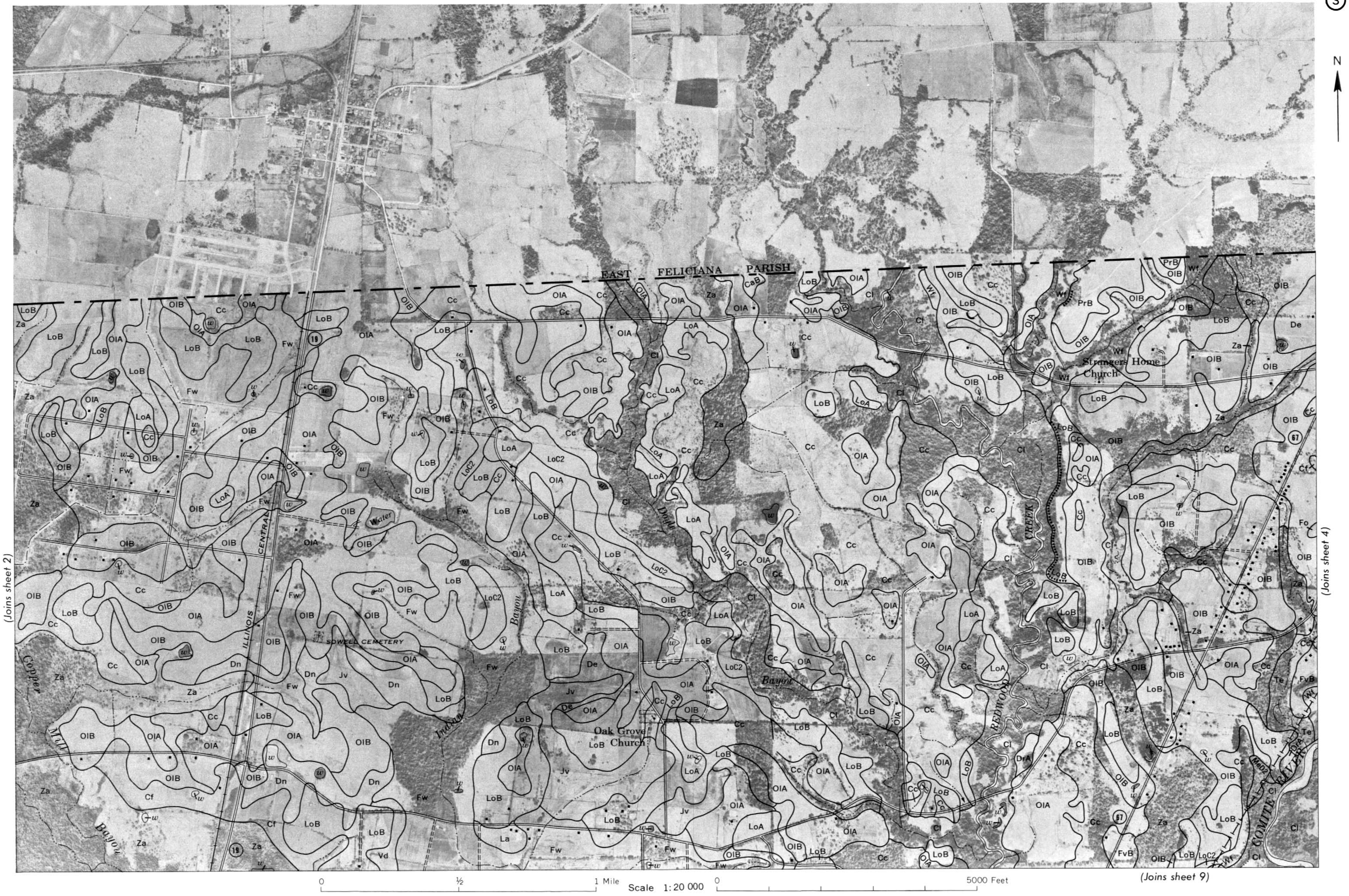
(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 8)

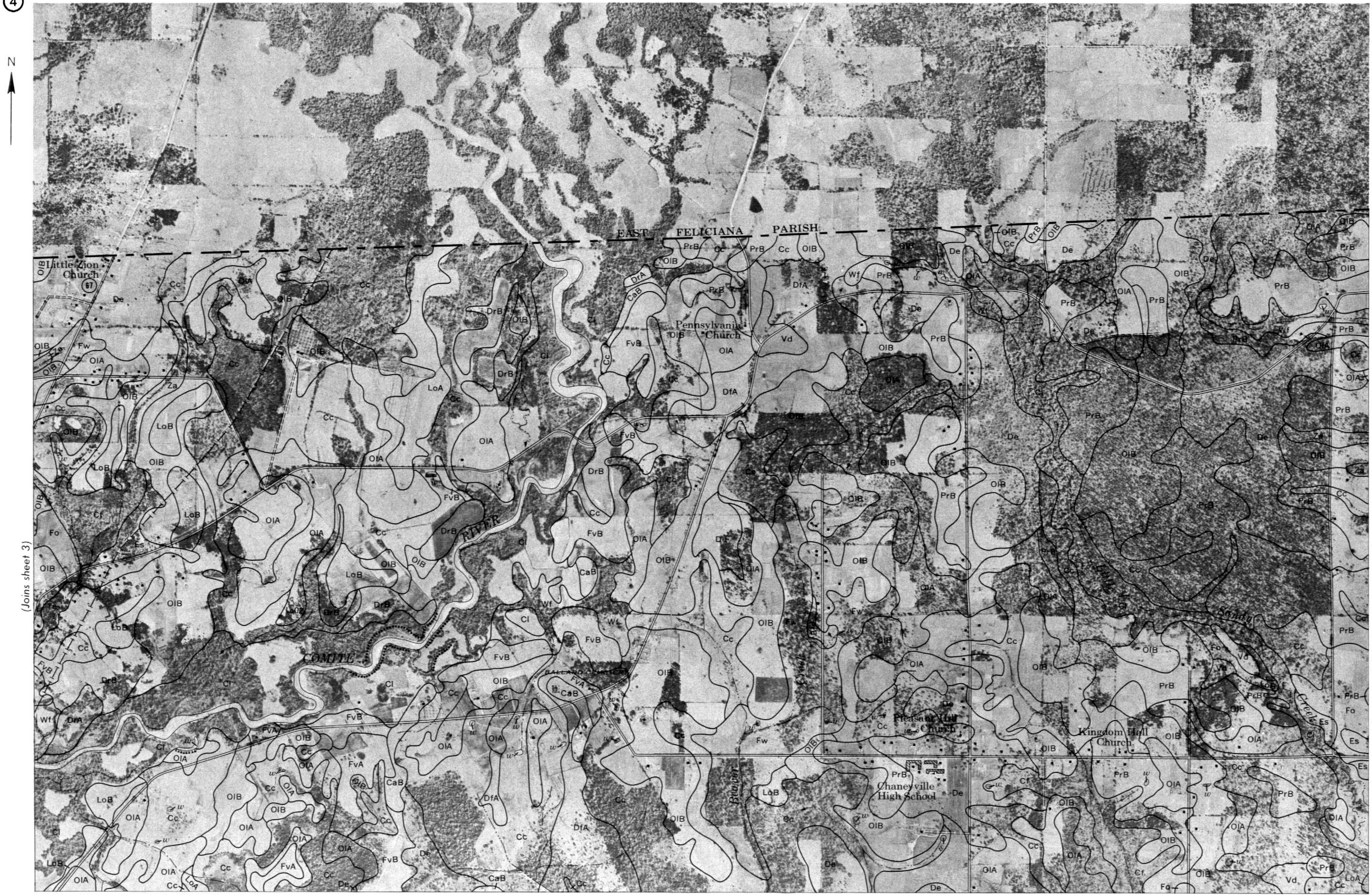
0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 3



④

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 4



(Joins sheet 3)

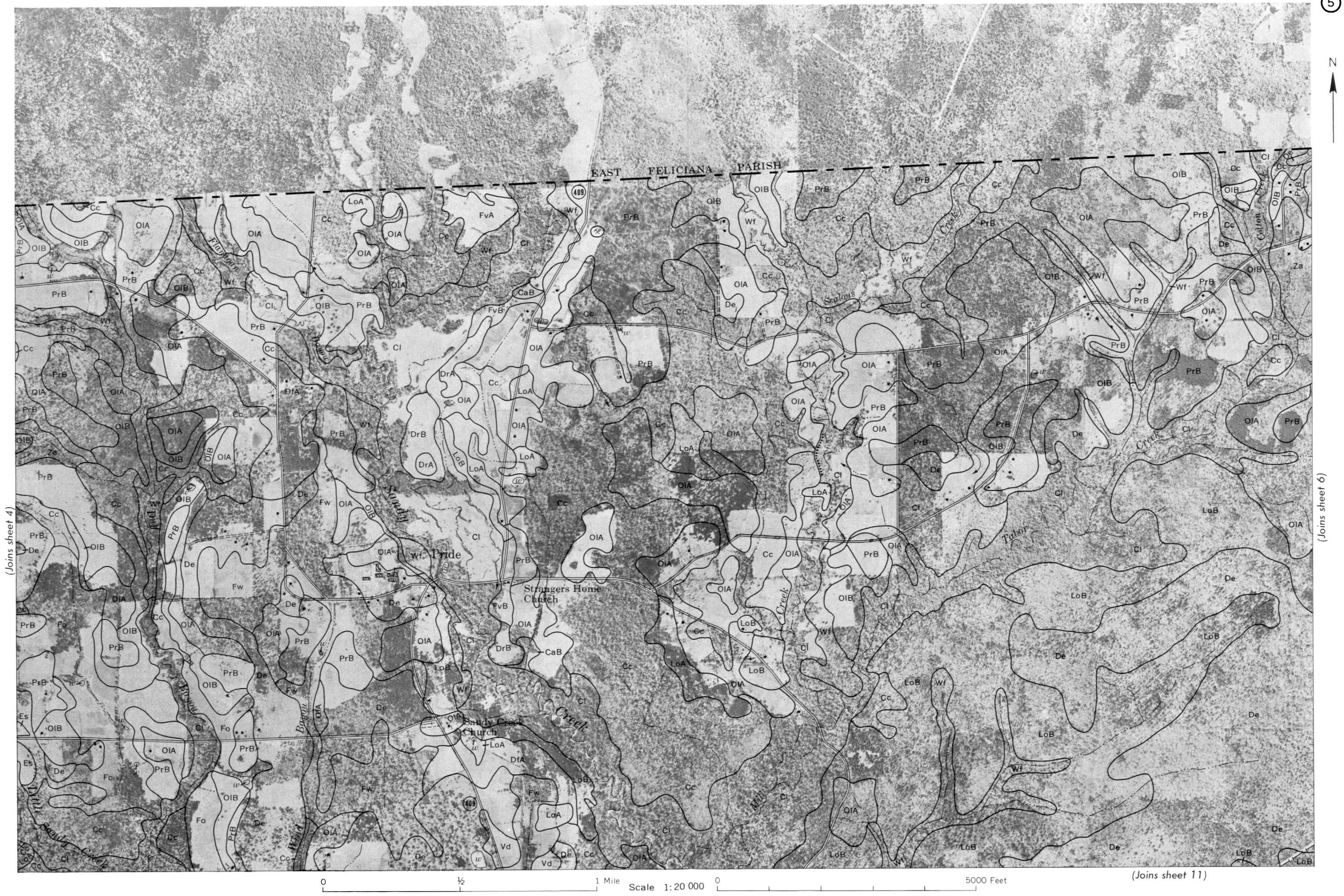
(Joins sheet 5)

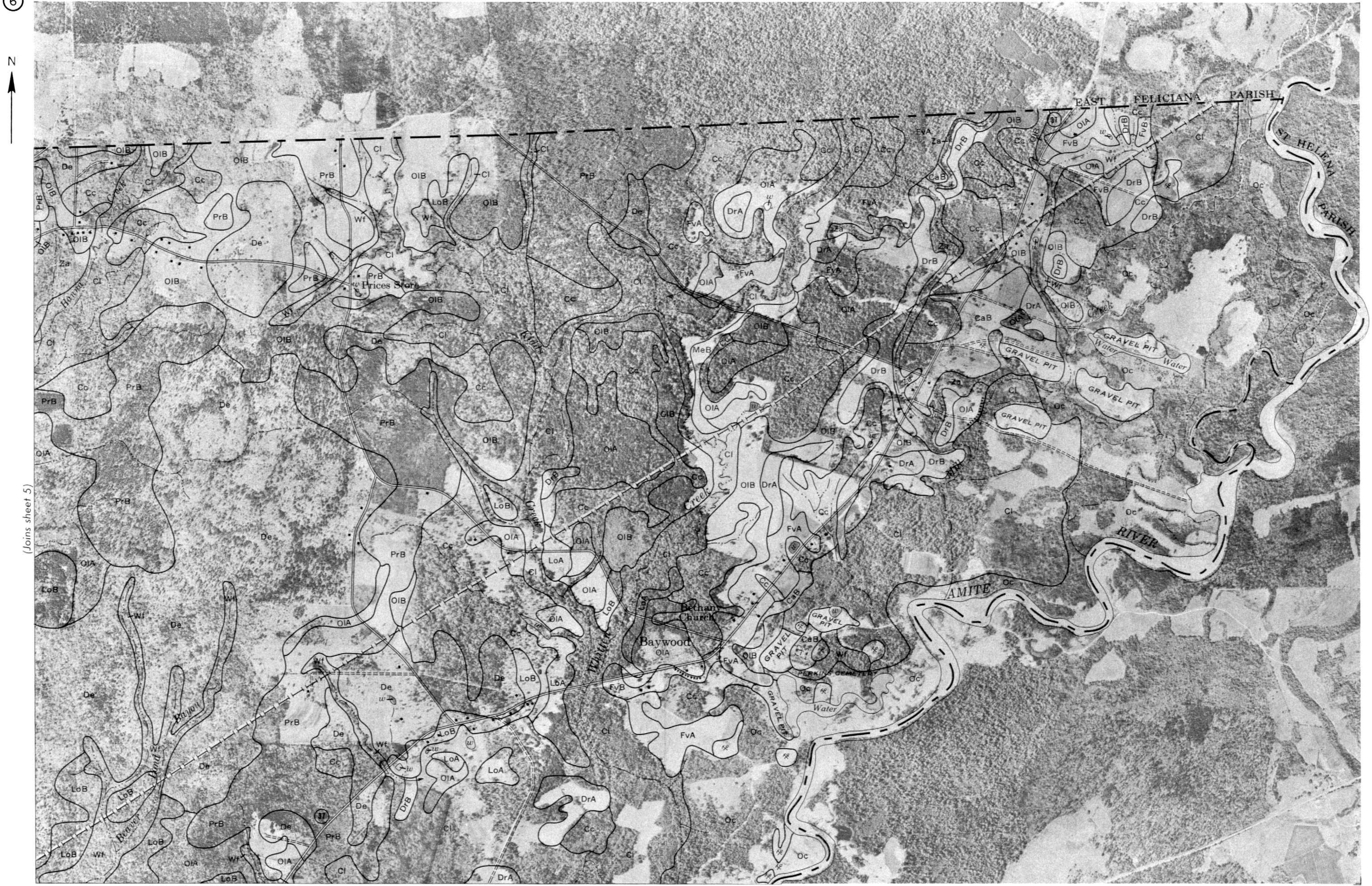
(Joins sheet 10)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 5

⑤



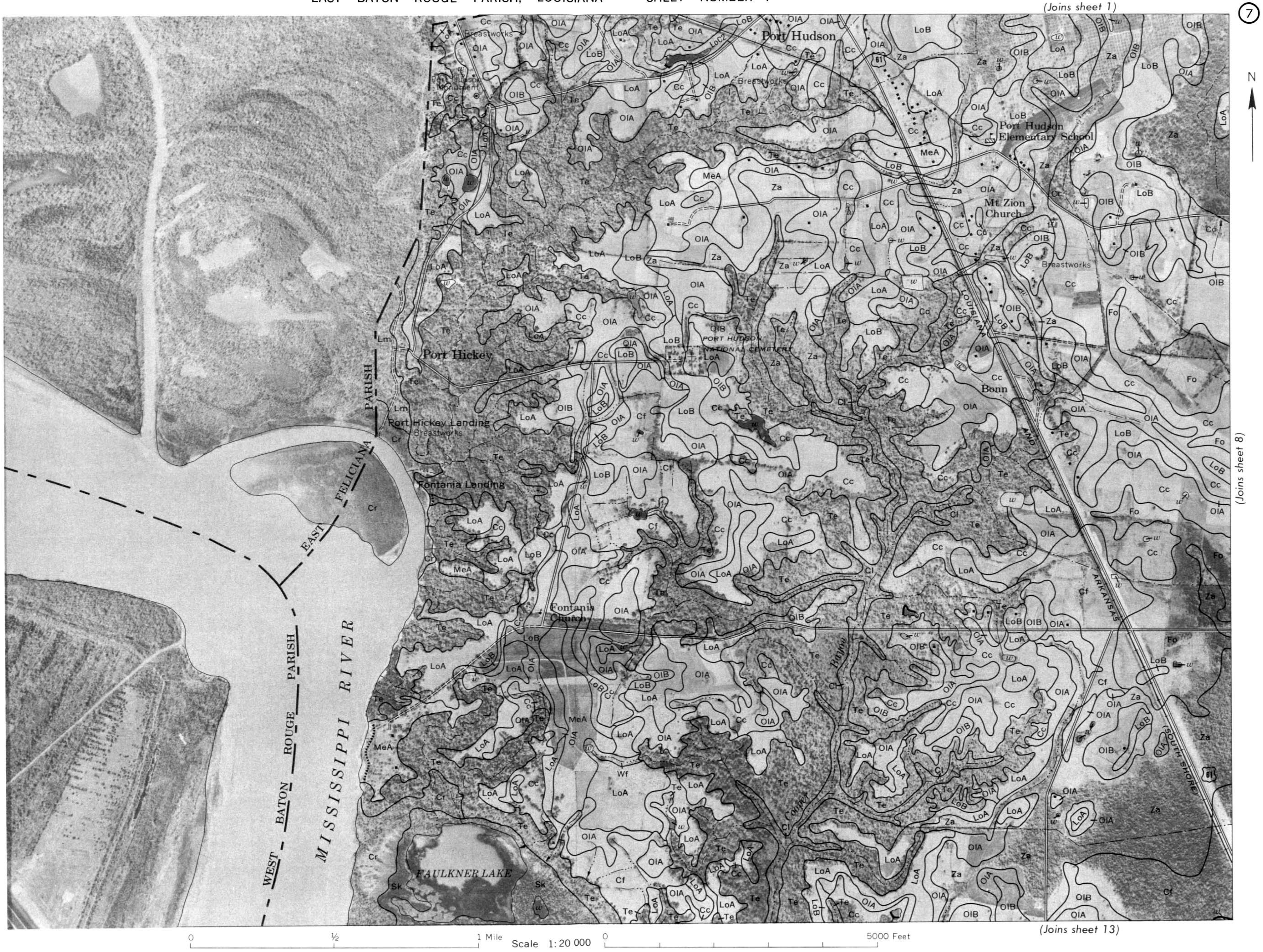


Scale 1: 20 000

0 ½ 1 Mile

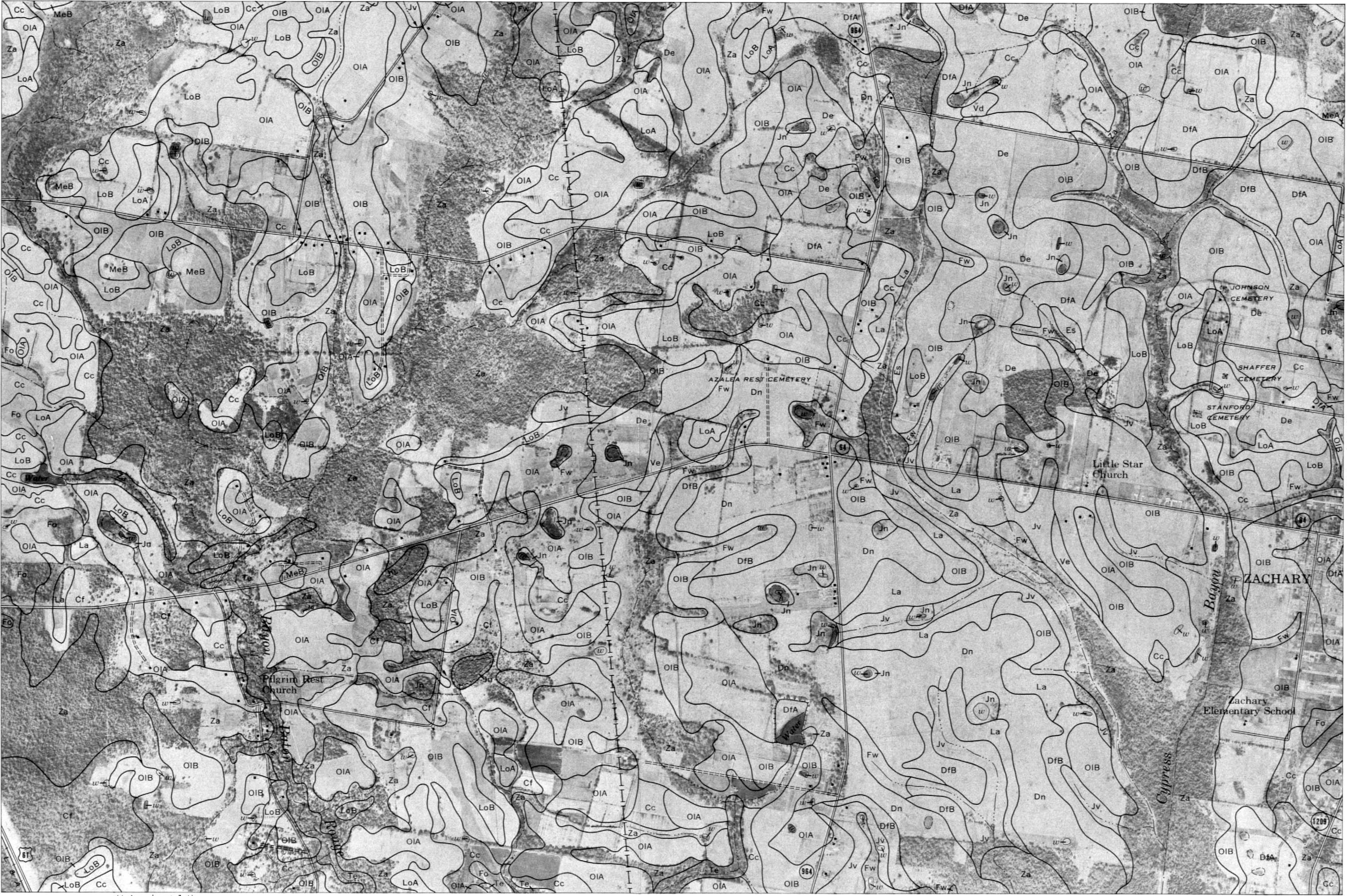
0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 7



EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 8

(Joins sheet 2)



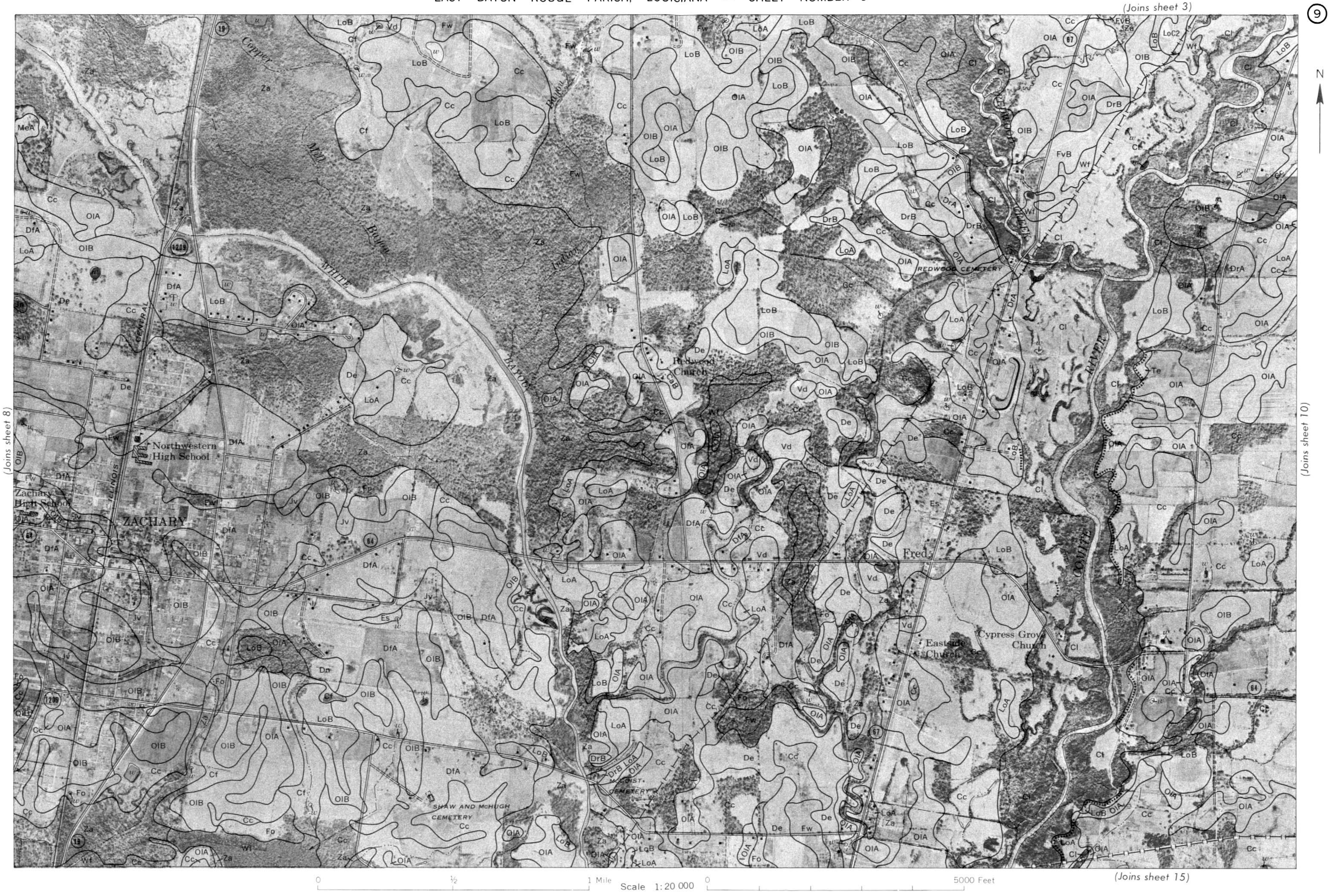
(Joins sheet 7)

(Joins sheet 9)

(Joins sheet 14)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 9



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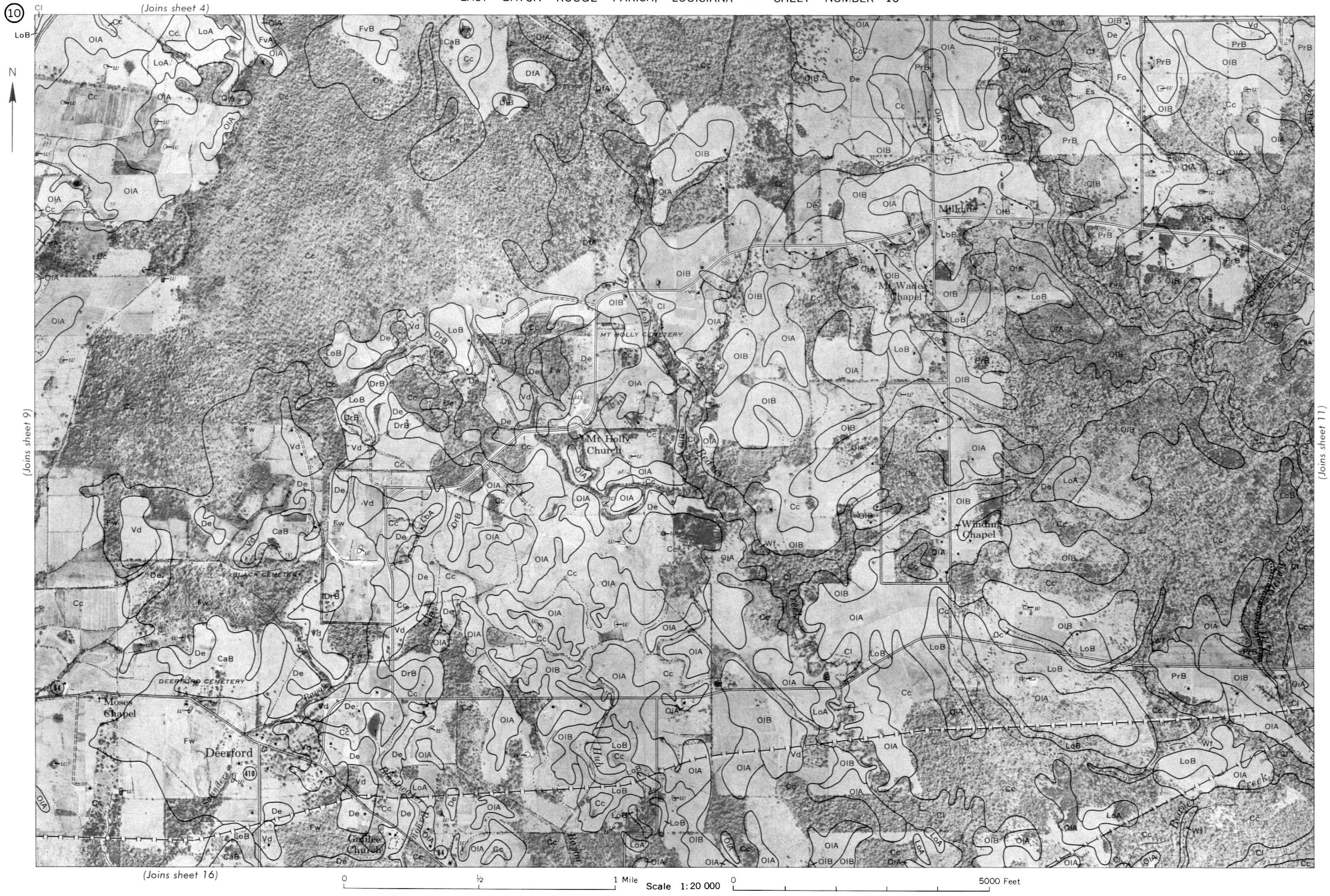

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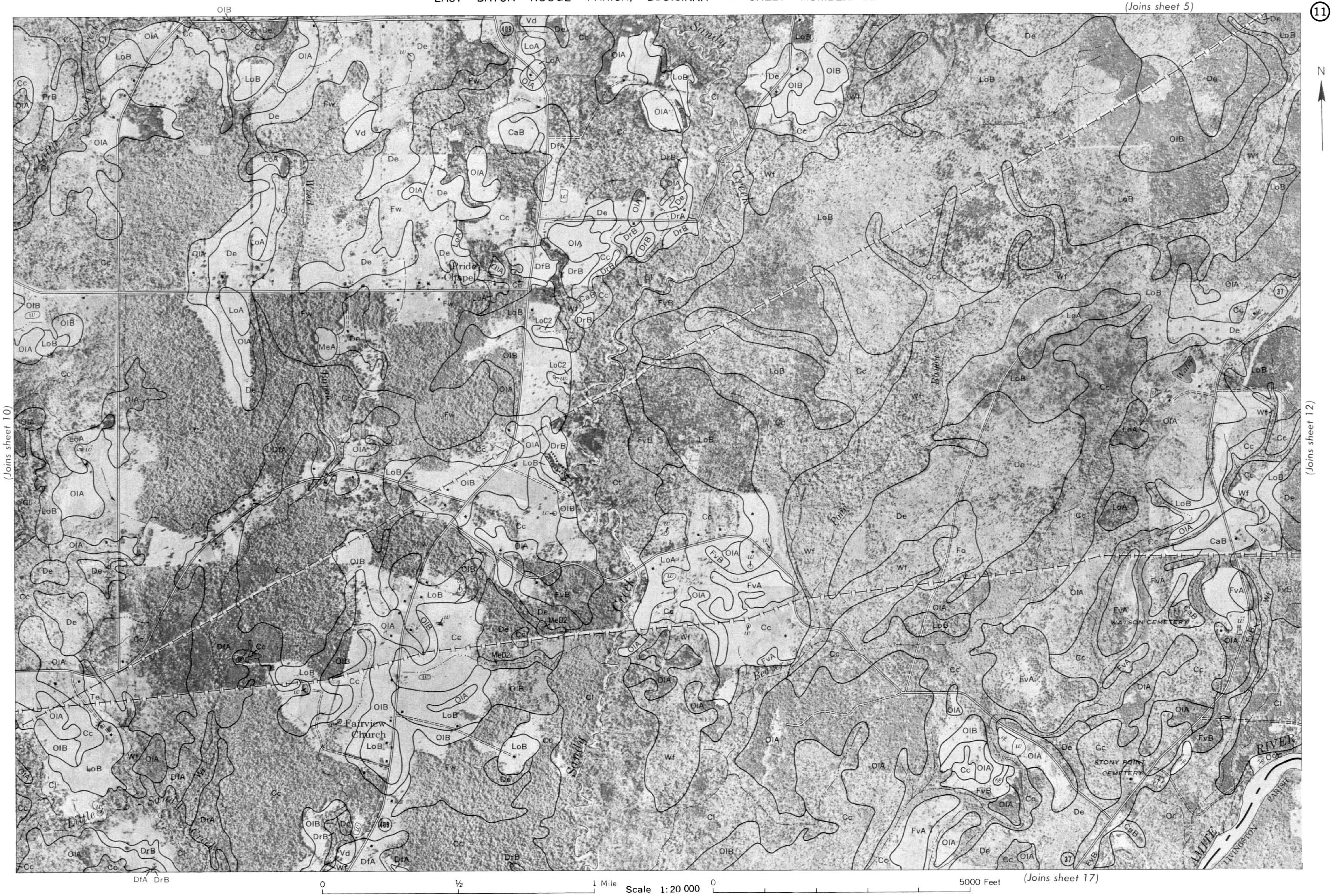
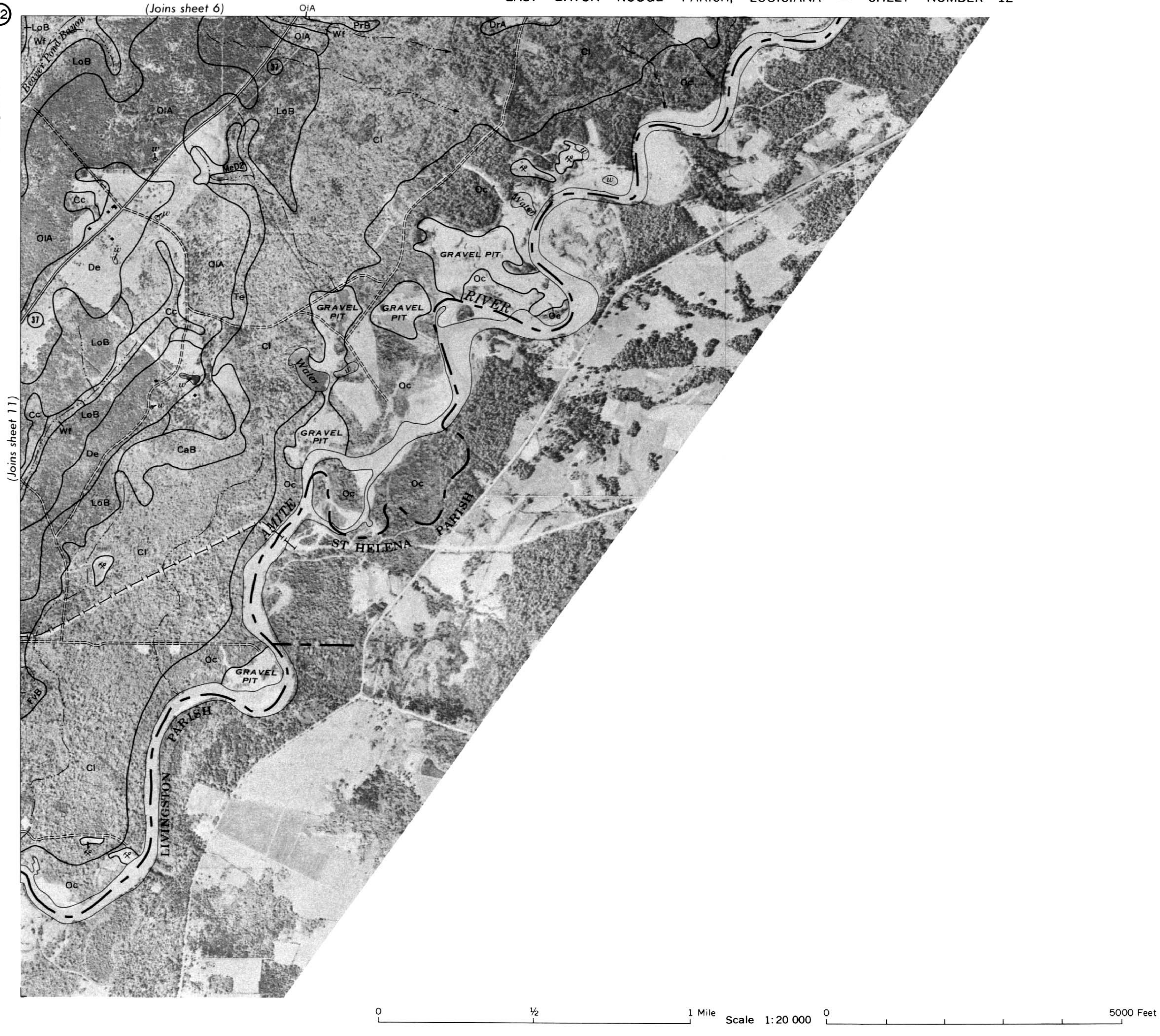
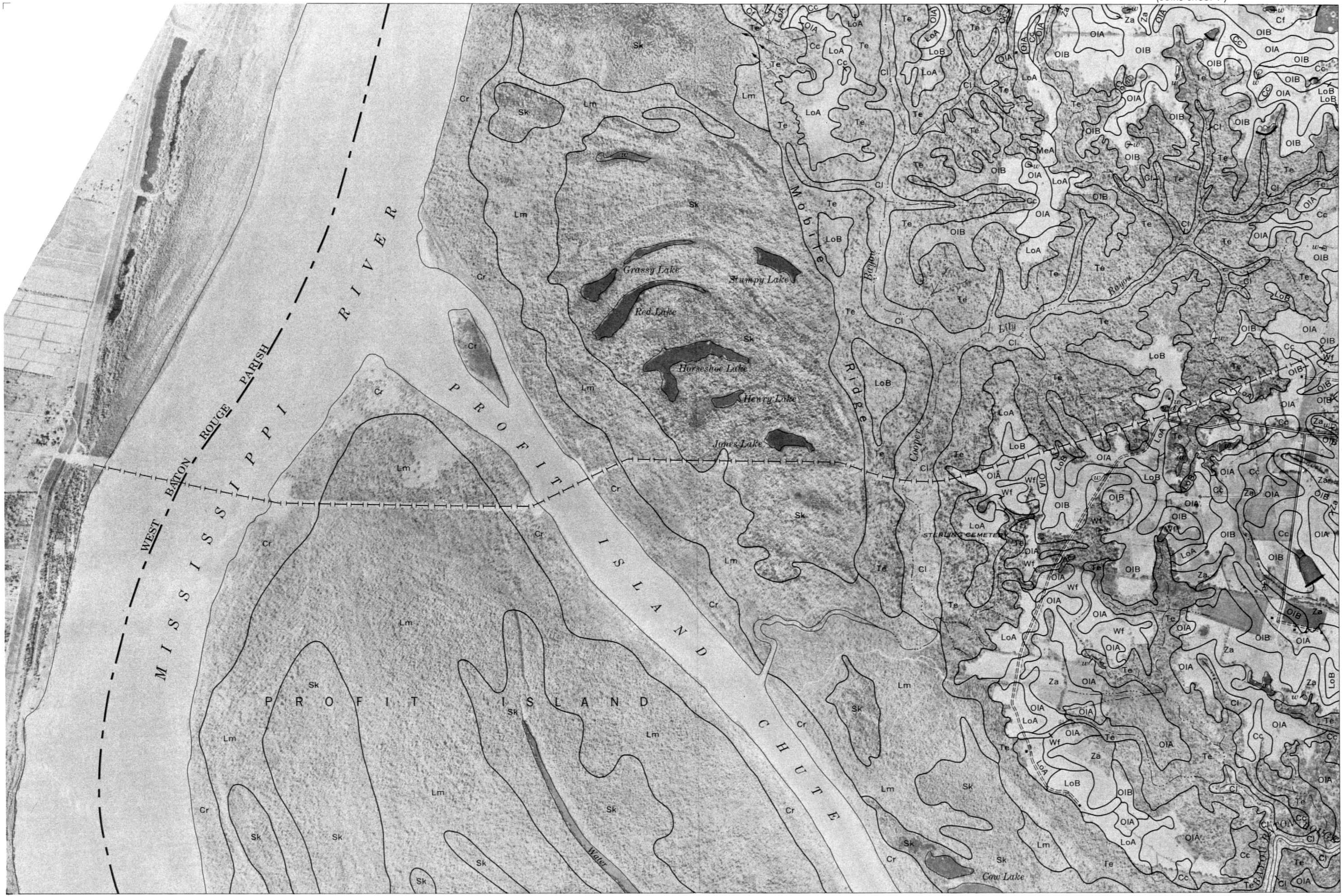



(Joins sheet 6)
(Joins sheet 11)
N
OlA
LoB
Wf
PrB
DrA
Beaver Pond Bayou
37
Cl
Oc
Cc
MeD2
De
Te
CaB
FyB
w
Water
GRAVEL PIT
AMITE
RIVER
ST HELENA
PARISH
LIVINGSTON
PARISH
0
½
1 Mile
Scale 1:20 000
0
5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 13

⑬

(Joins sheet 7)



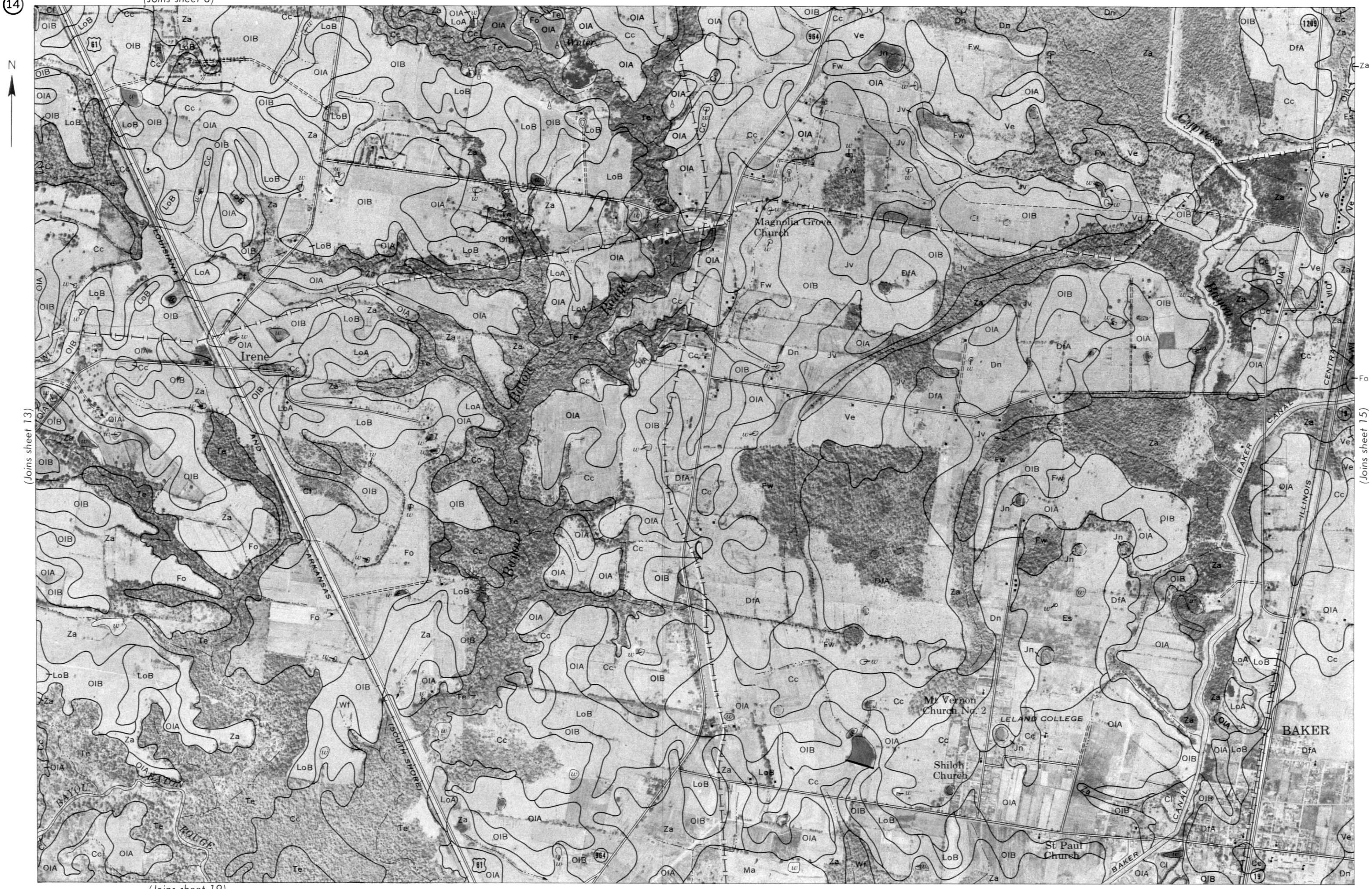
(Joins sheet 14)

(Joins sheet 18)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 14

(Joins sheet 8)



(Joins sheet 13)

(Joins sheet 15)

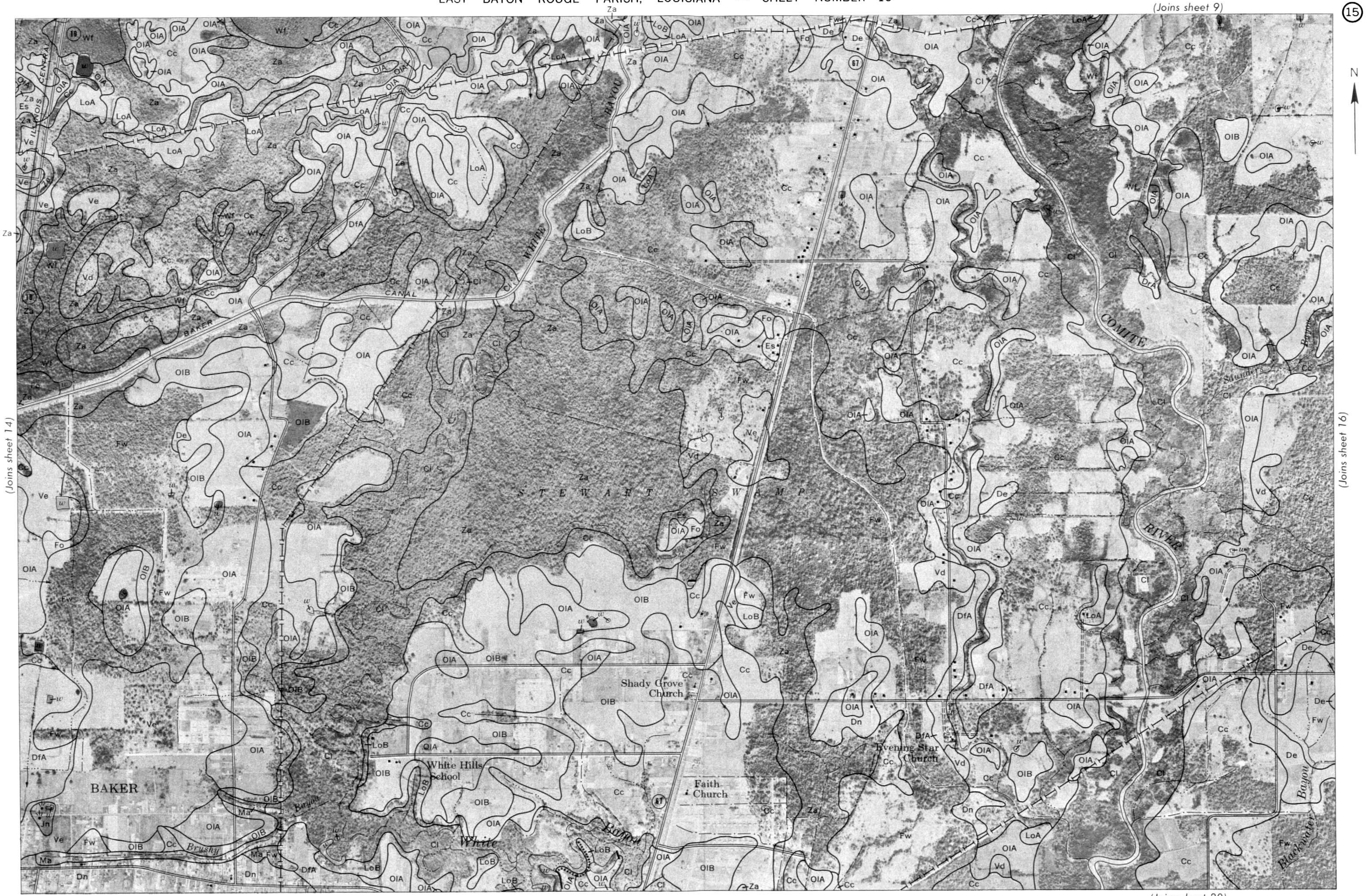
(Joins sheet 19)

0 ½ 1 Mile

Scale 1: 20 000

0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 15



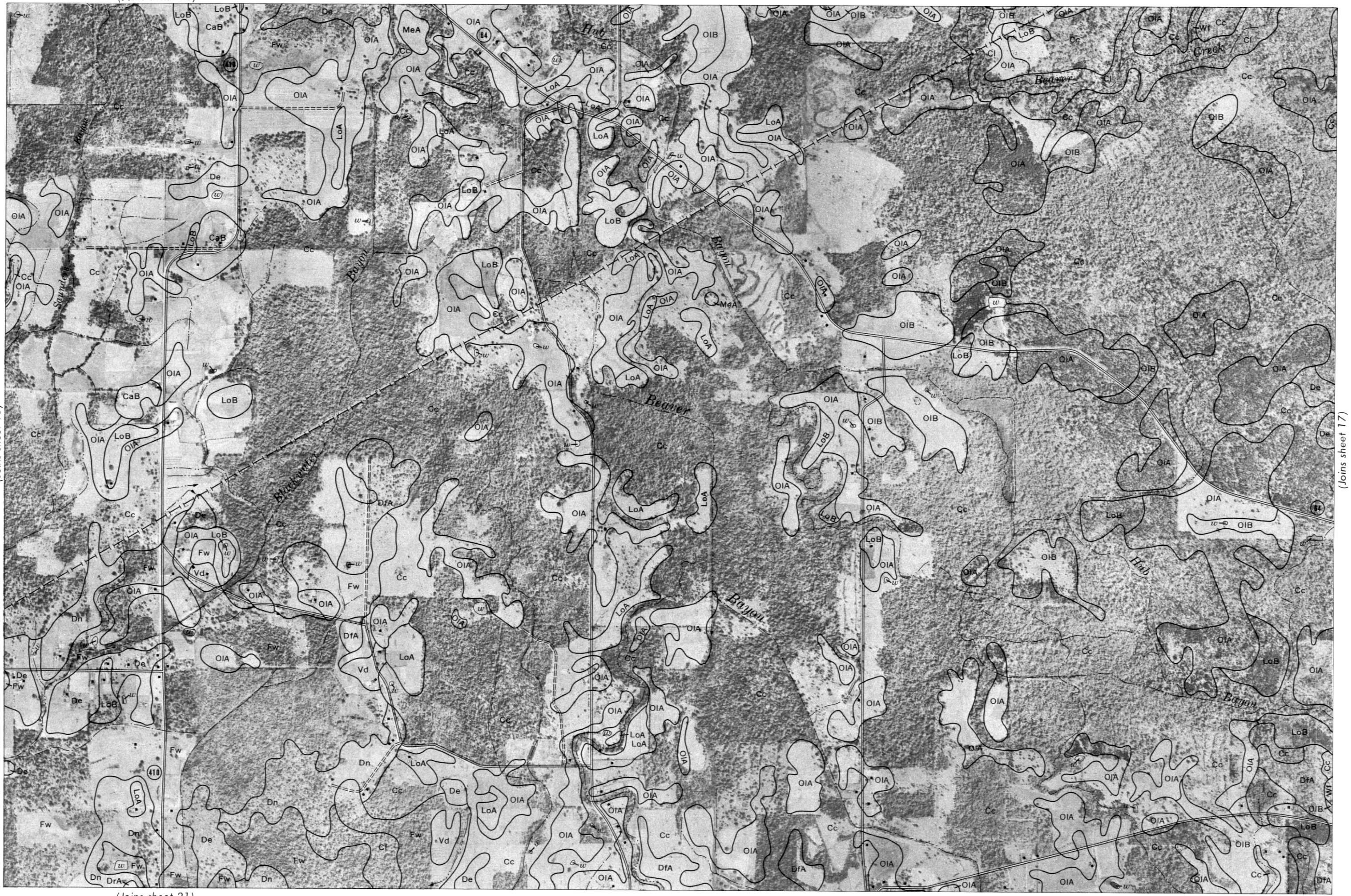
0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

⑯

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 16

(Joins sheet 10)

(Joins sheet 15)



(Joins sheet 17)

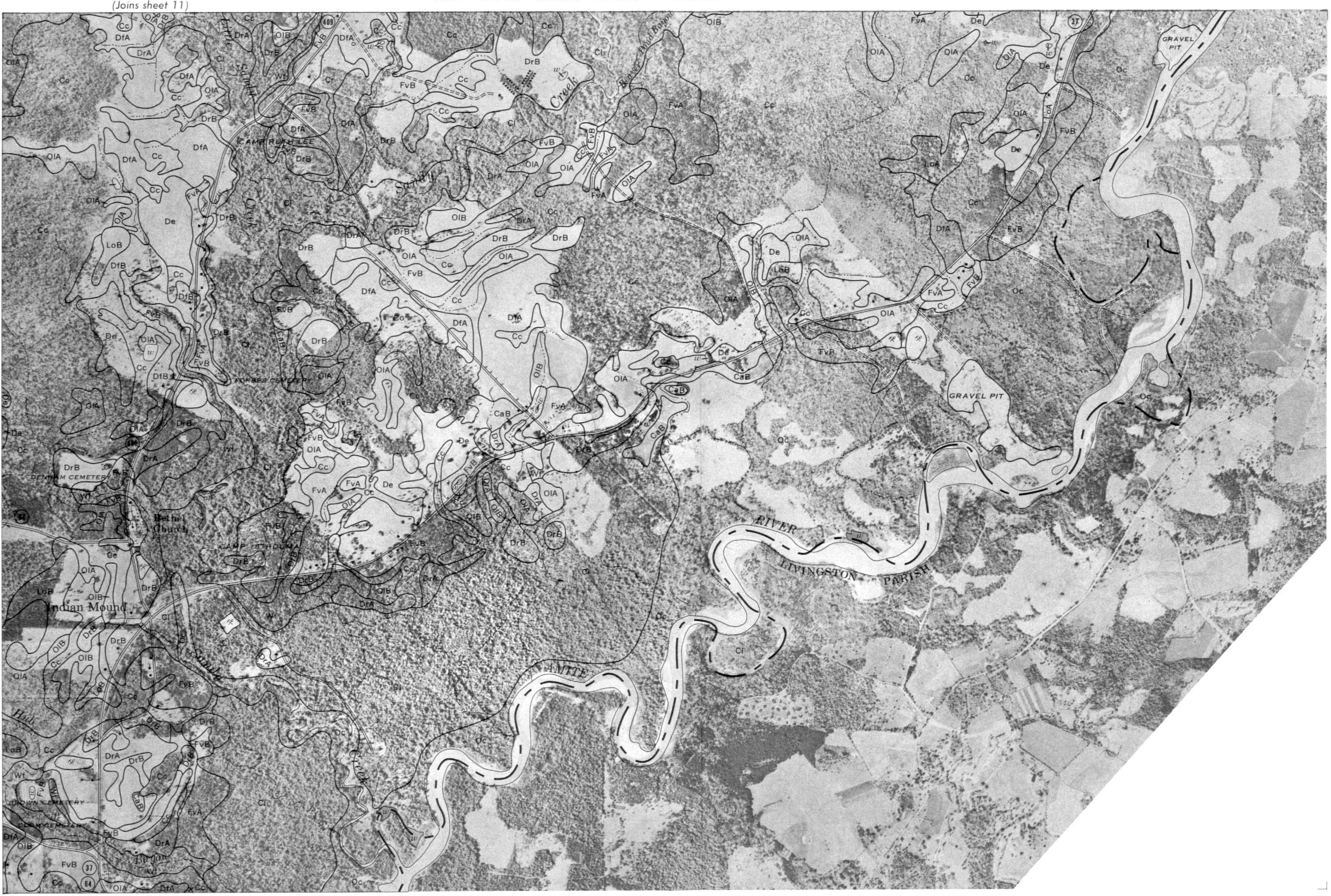
(Joins sheet 21)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 17

(Joins sheet 11)

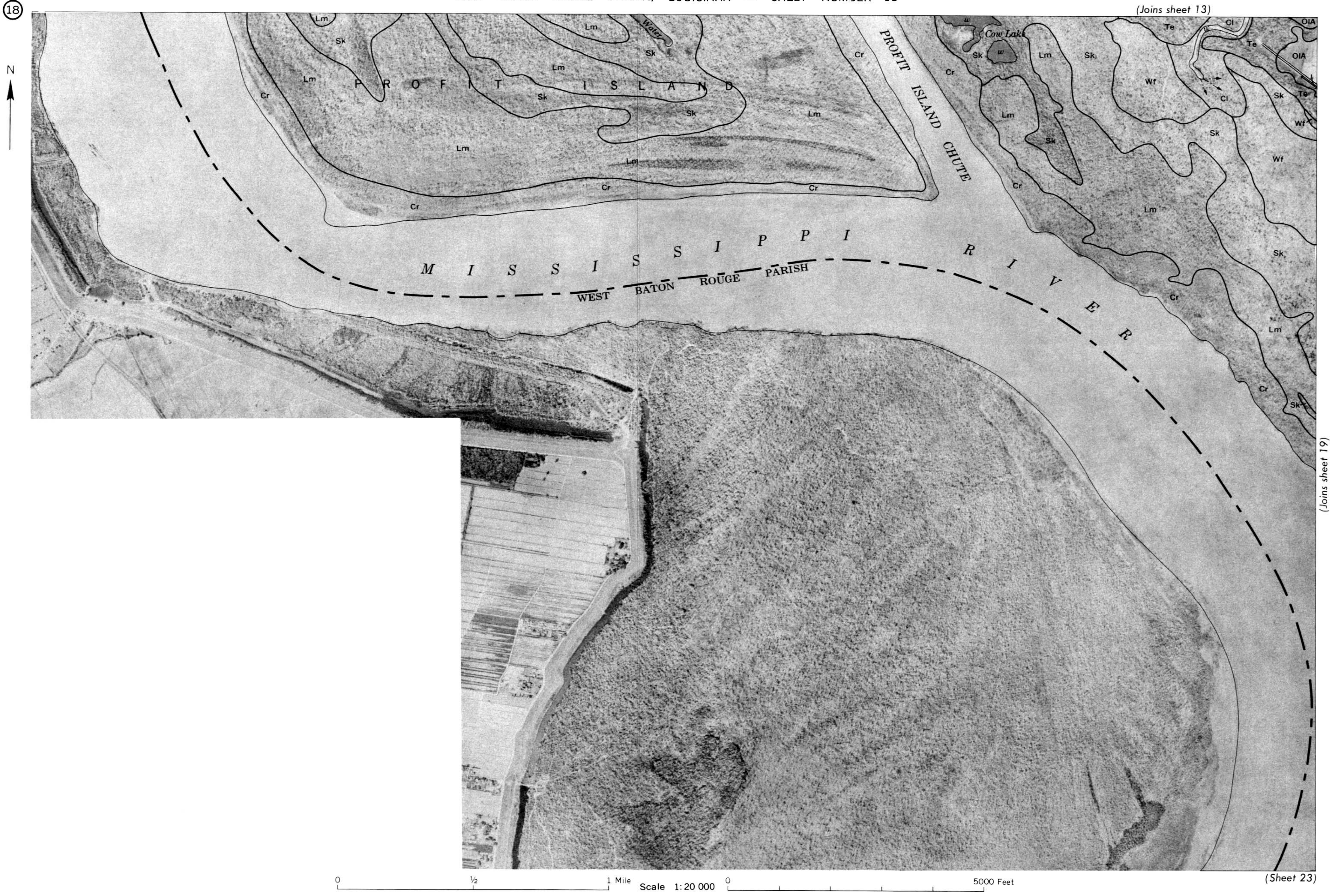
(Joins sheet 16)

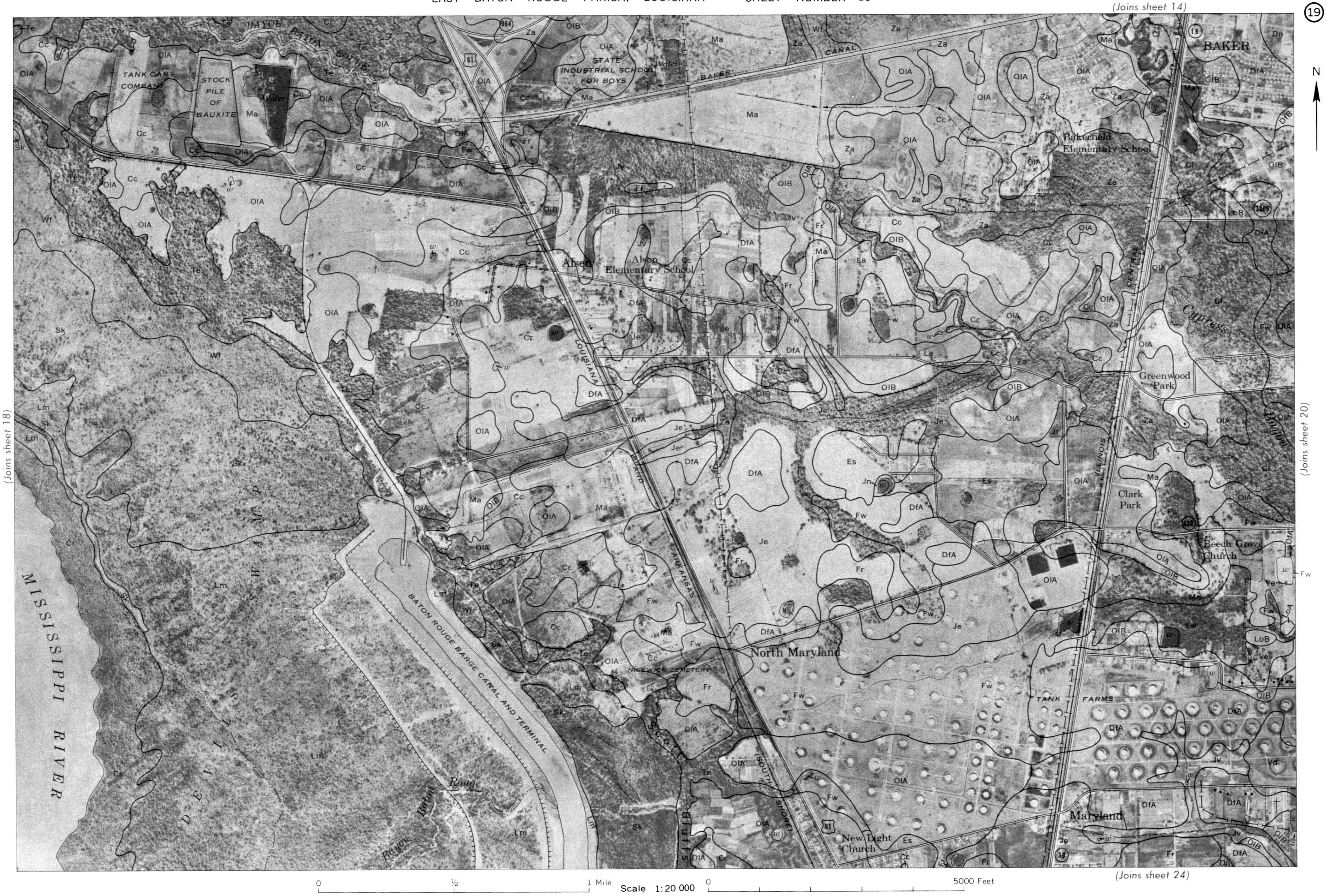


(Joins sheet 22)

0 ½ 1 Mile Scale 1: 20 000 0 5000 Feet

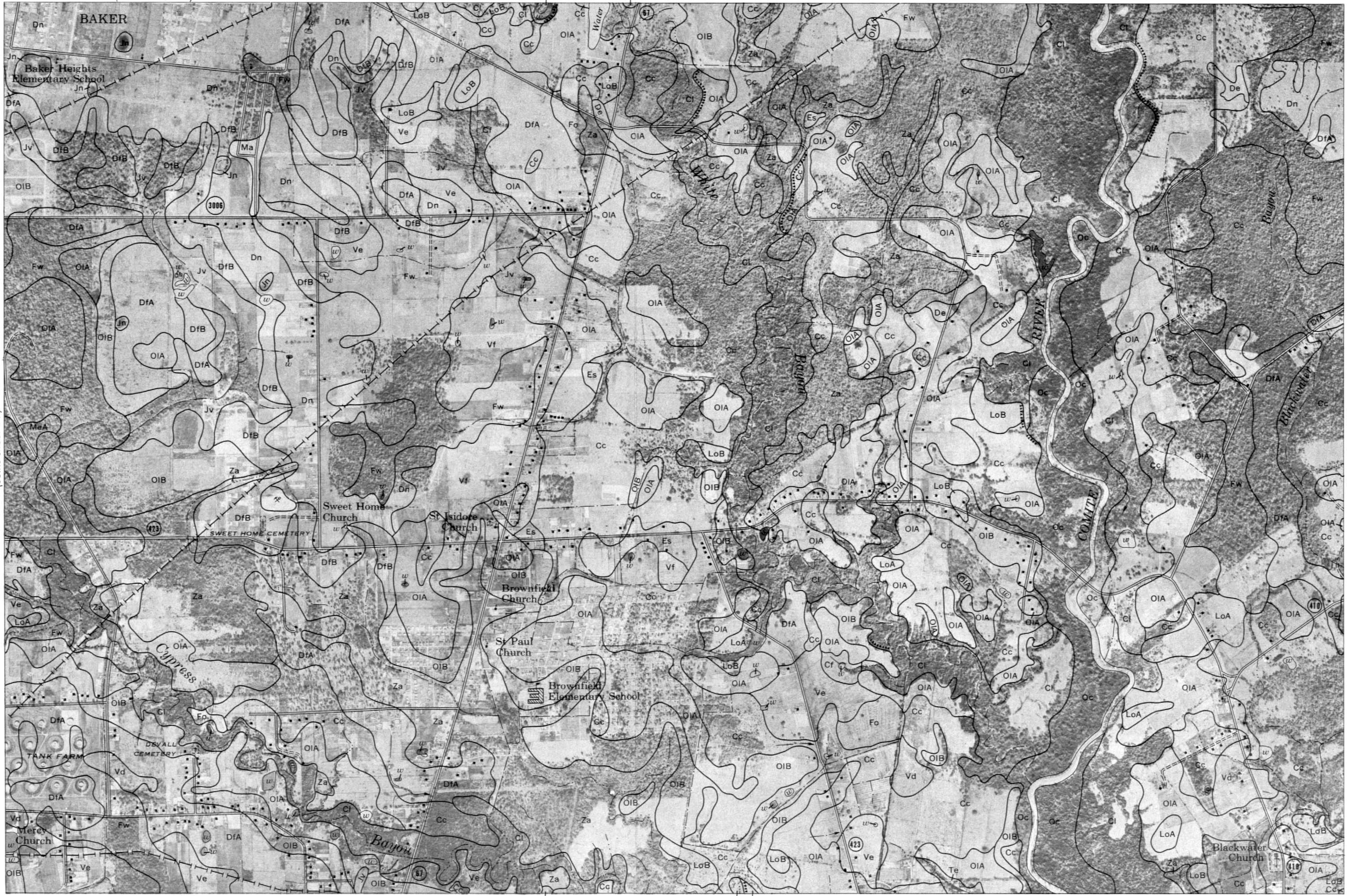
EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 18




(Joins sheet 14)
(Joins sheet 18)
(Joins sheet 20)
(Joins sheet 24)
N
BAKER
Bakerfield Elementary School
Alsen
Alsen Elementary School
STATE INDUSTRIAL SCHOOL FOR BOYS
TANK CAR COMPANY
STOCK PILE OF BAUXITE
Water
BAYOU BATON ROUGE
BAKER CANAL
Greenwood Park
Clark Park
Beech Grove Church
Cypress Bayou
North Maryland
NICKWICK CEMETERY
TANK FARMS
Maryland
New Light Church
Scott Bluffs
SOUTH SHORE
LOUISIANA AND ARKANSAS
ILLINOIS CENTRAL
BATON ROUGE BARGE CANAL AND TERMINAL
DEVILS SWAMP
MISSISSIPPI RIVER
Bayou Baton Rouge
61
964
19
423
0
½
1 Mile
Scale 1:20 000
0
5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 20

(Joins sheet 15)



(Joins sheet 19)

(Joins sheet 21)

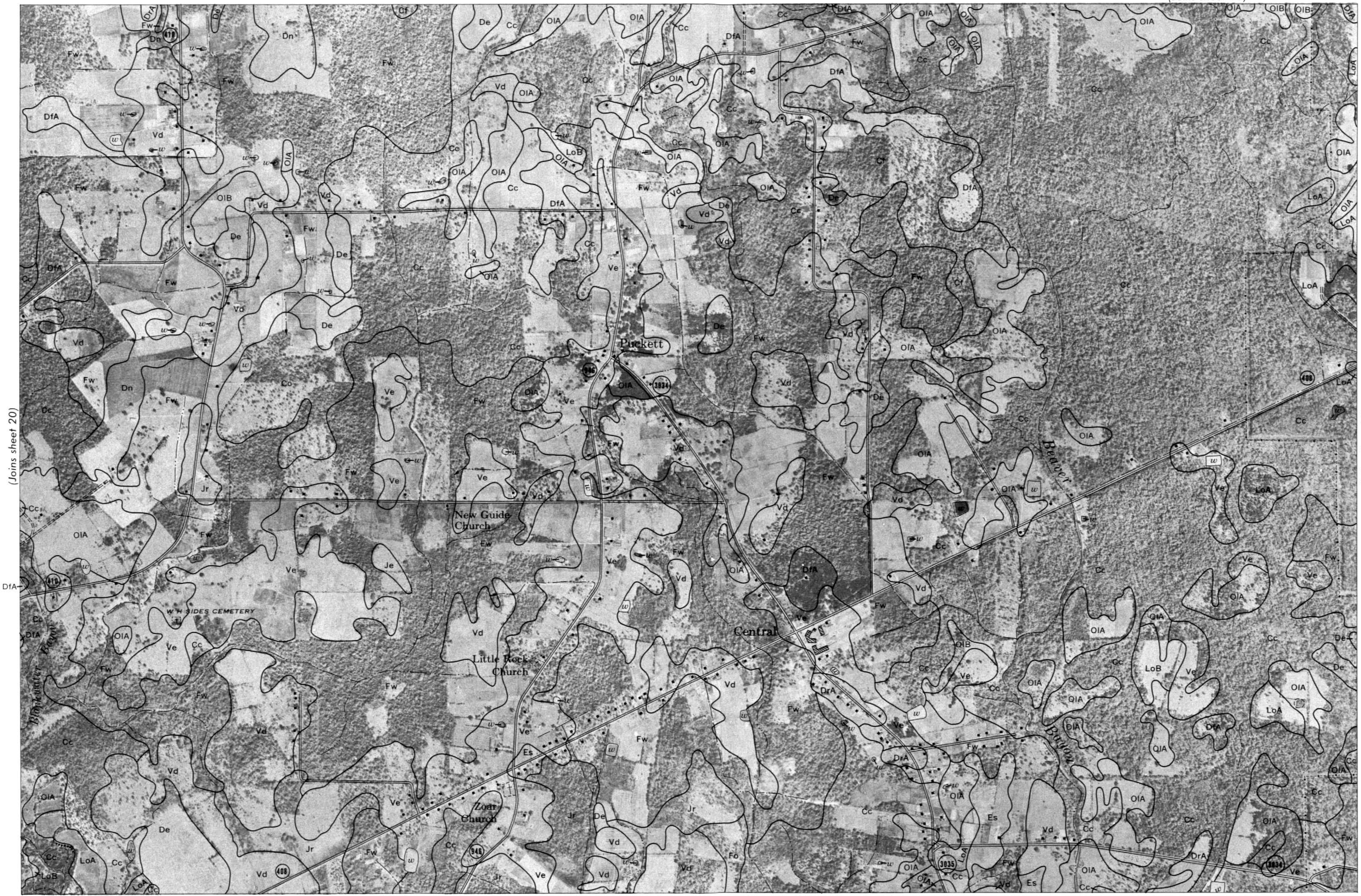
(Joins sheet 25)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 21

(Joins sheet 16)

(Joins sheet 20)



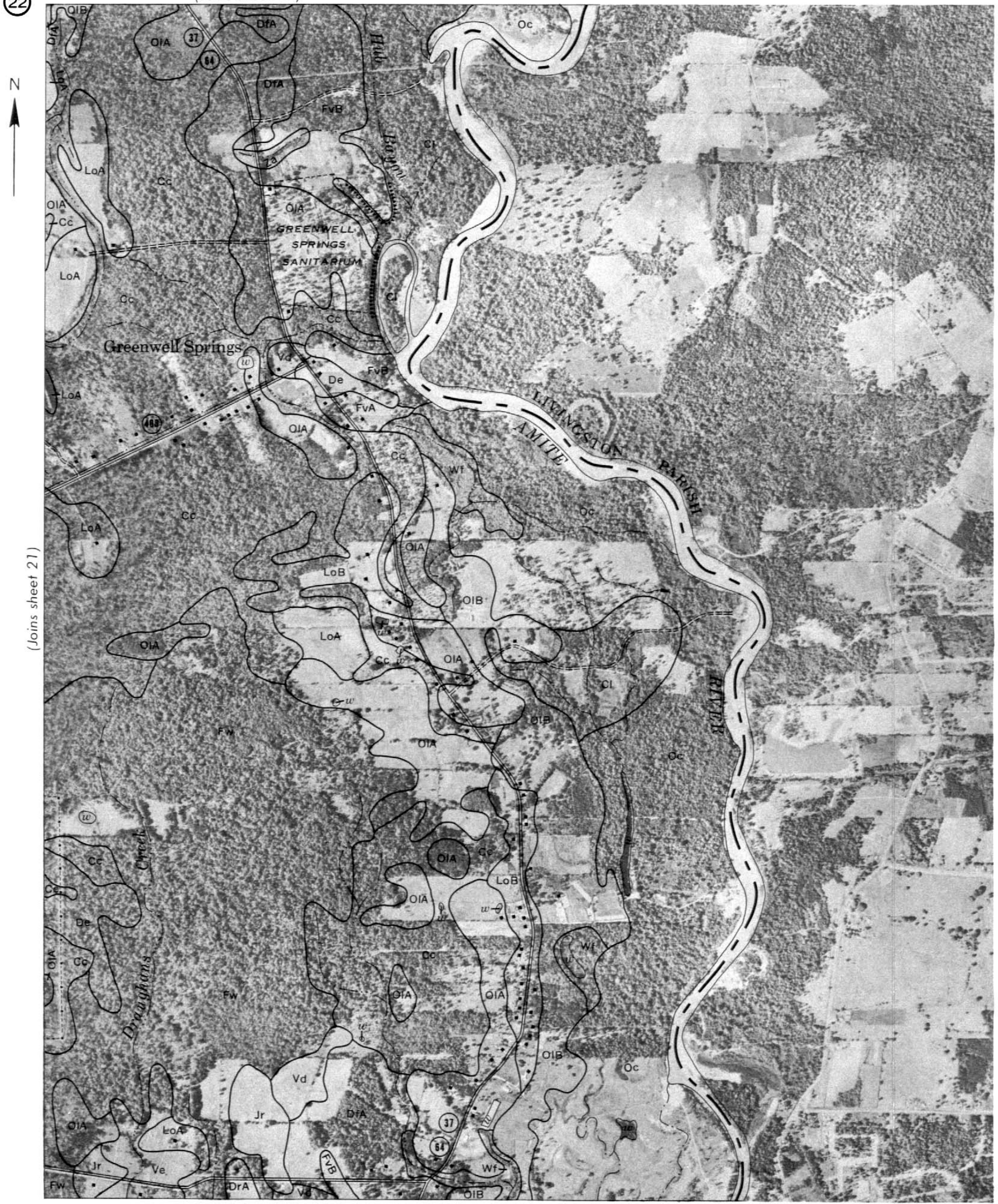
(Joins sheet 22)

(Joins sheet 26)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

㉒

(Joins sheet 17)



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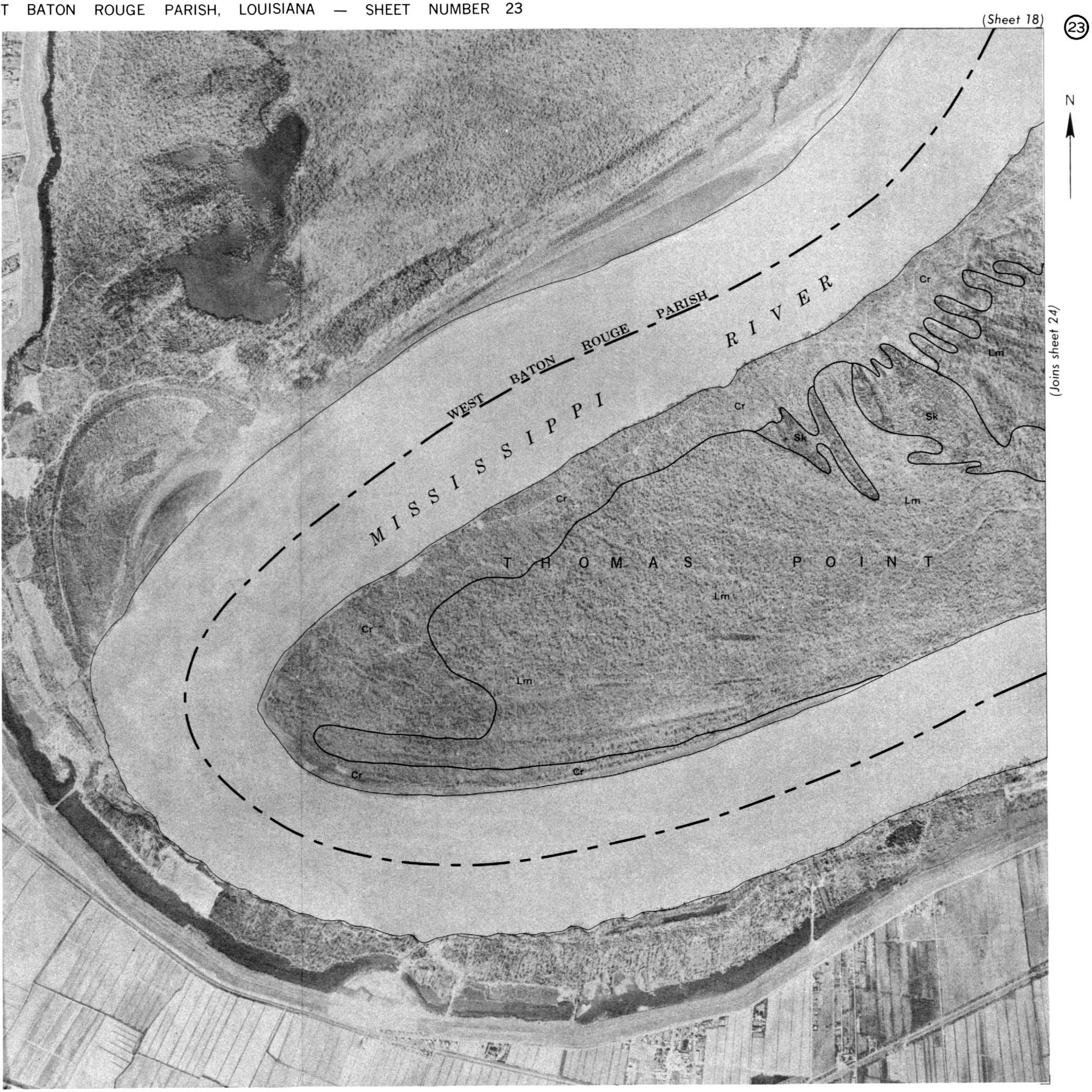
Scale 1:20 000

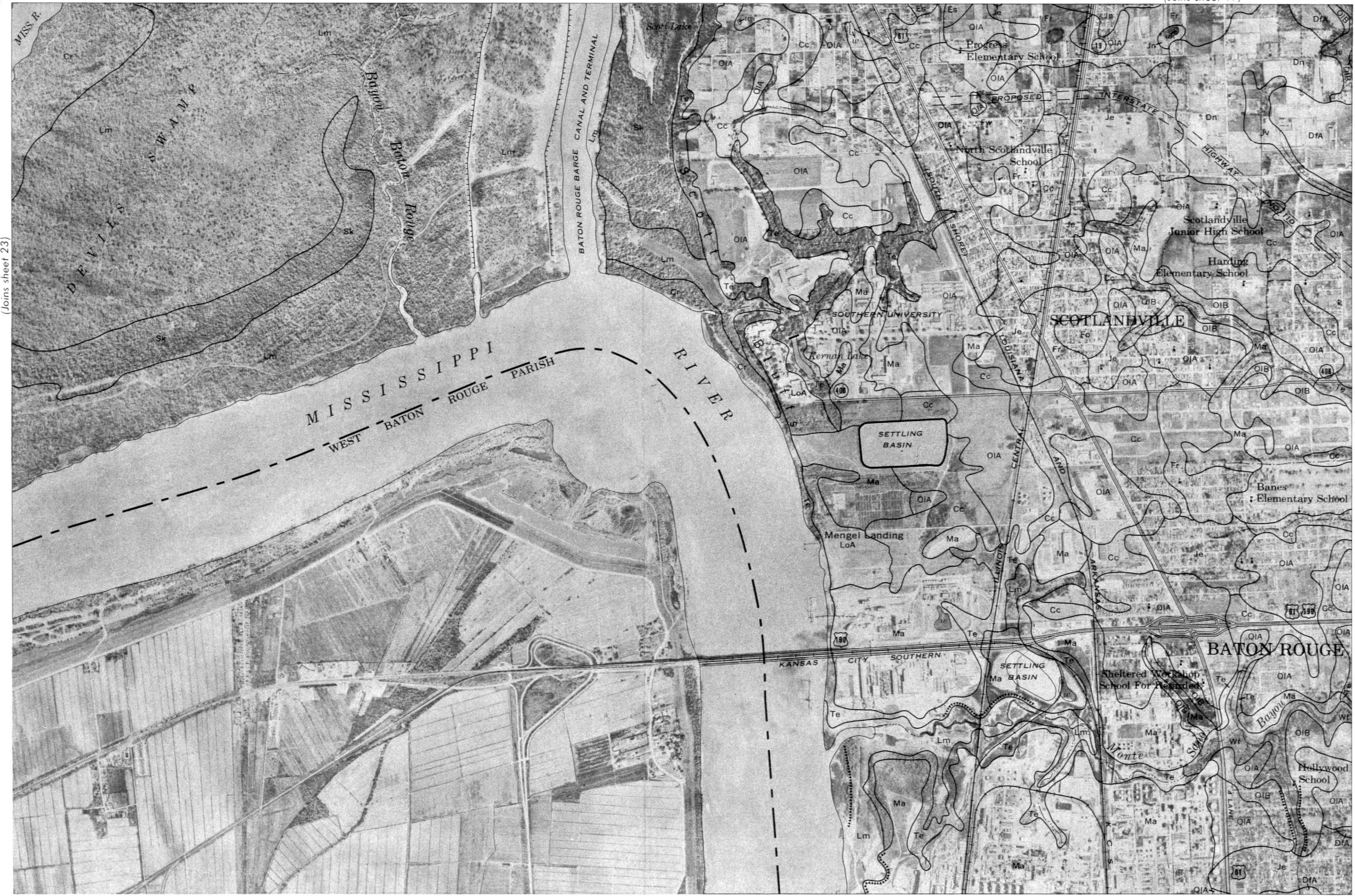


0 ½ 1 Mile Scale 1: 20 000 0 5000 Feet

㉔

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 24

(Joins sheet 19)



(Joins sheet 23)

(Joins sheet 25)

(Joins sheet 28)

0 ½ 1 Mile

Scale 1:20 000

0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 25

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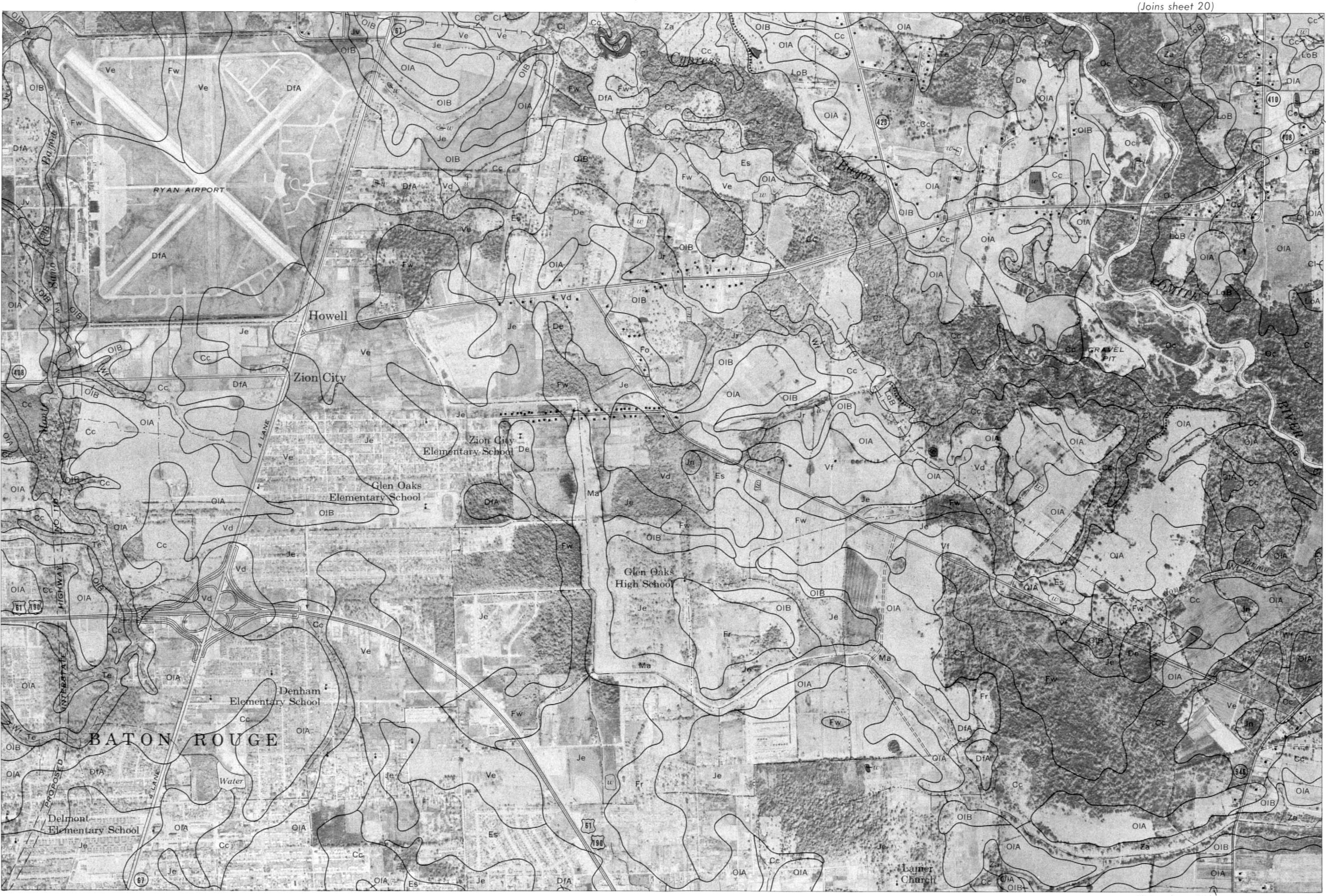
(Joins sheet 20)

(Joins sheet 24)

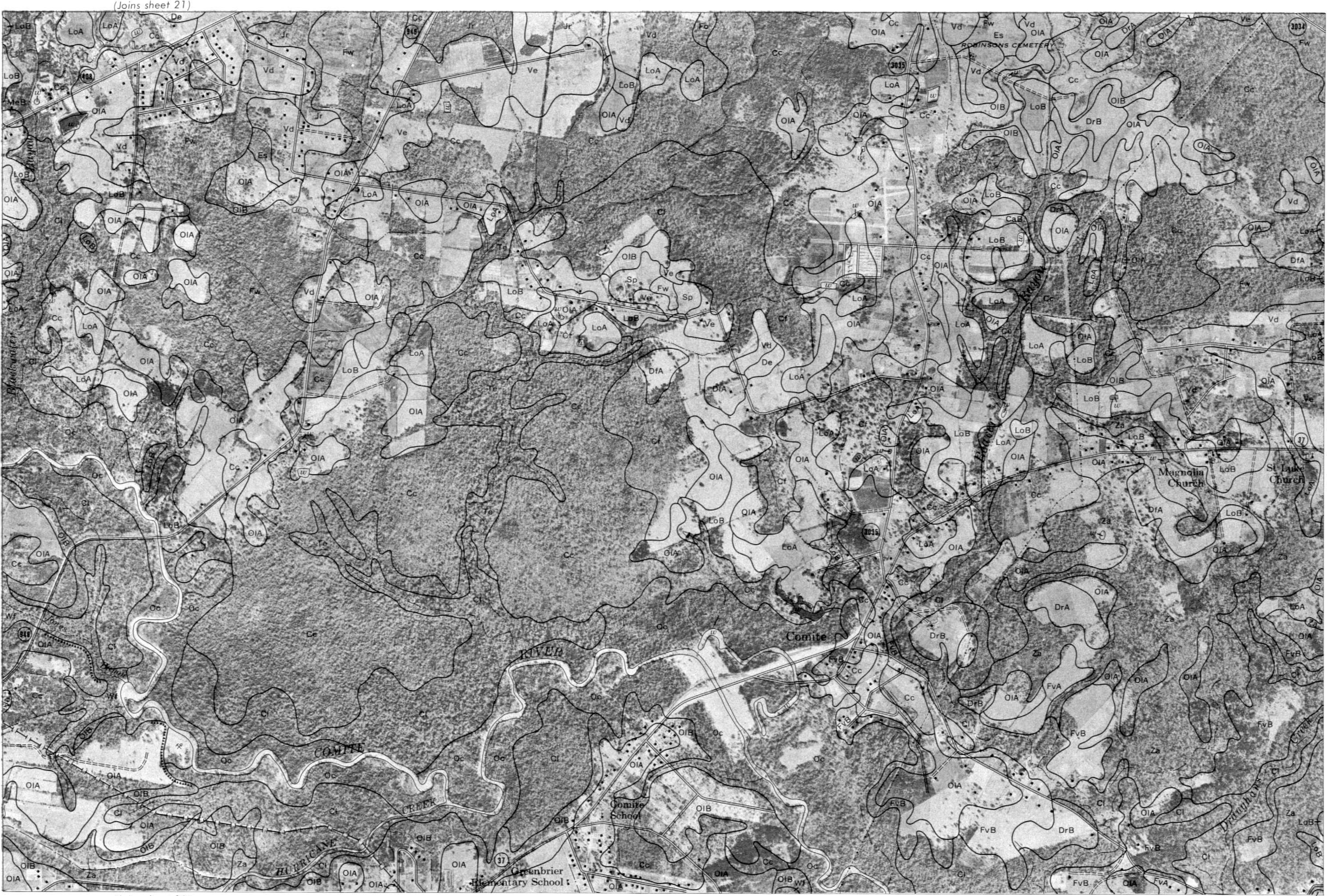


(Joins sheet 26)

(Joins sheet 29)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 26

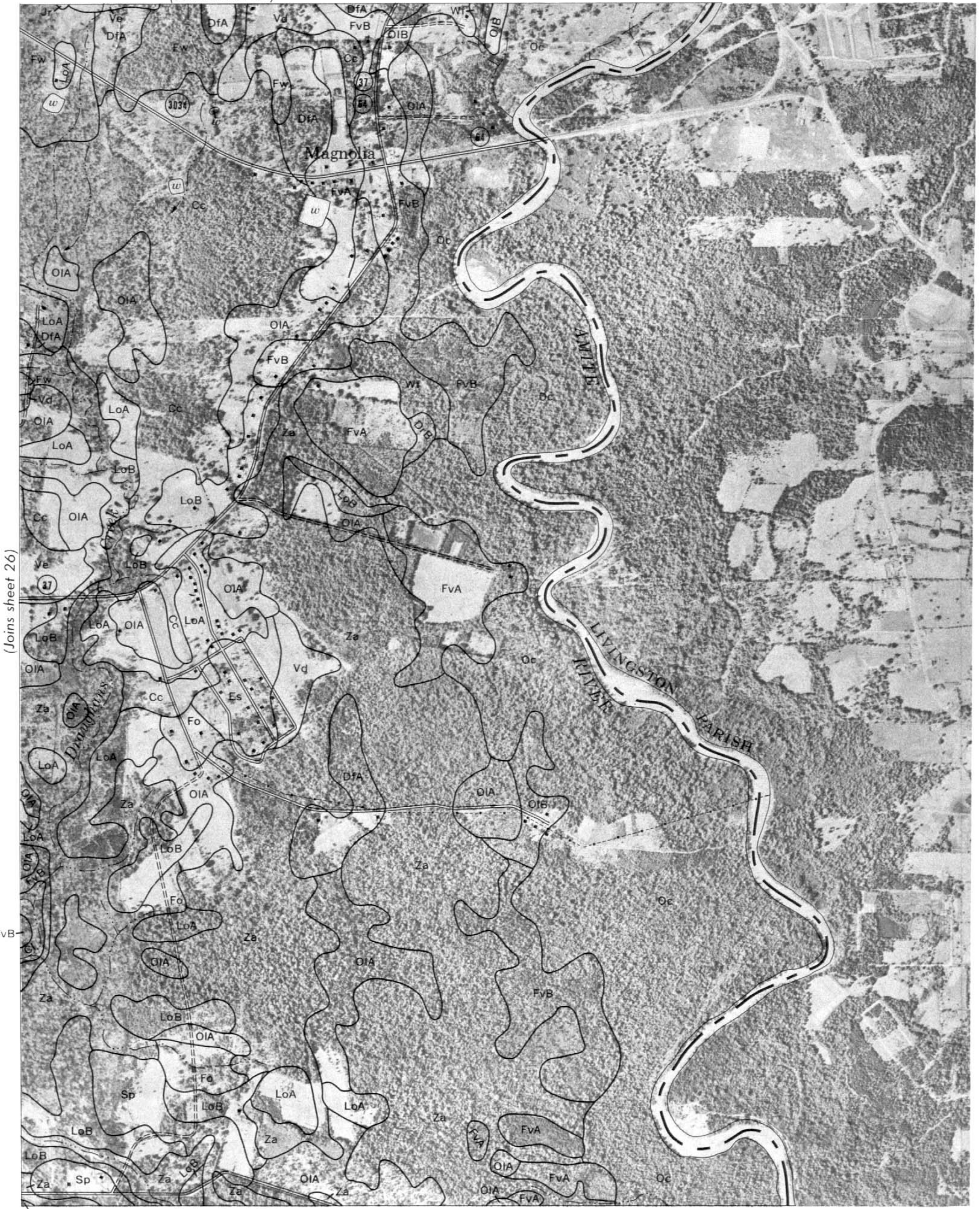


EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 27

N

(Joins sheet 22)

(Joins sheet 26)



FvB

FvB

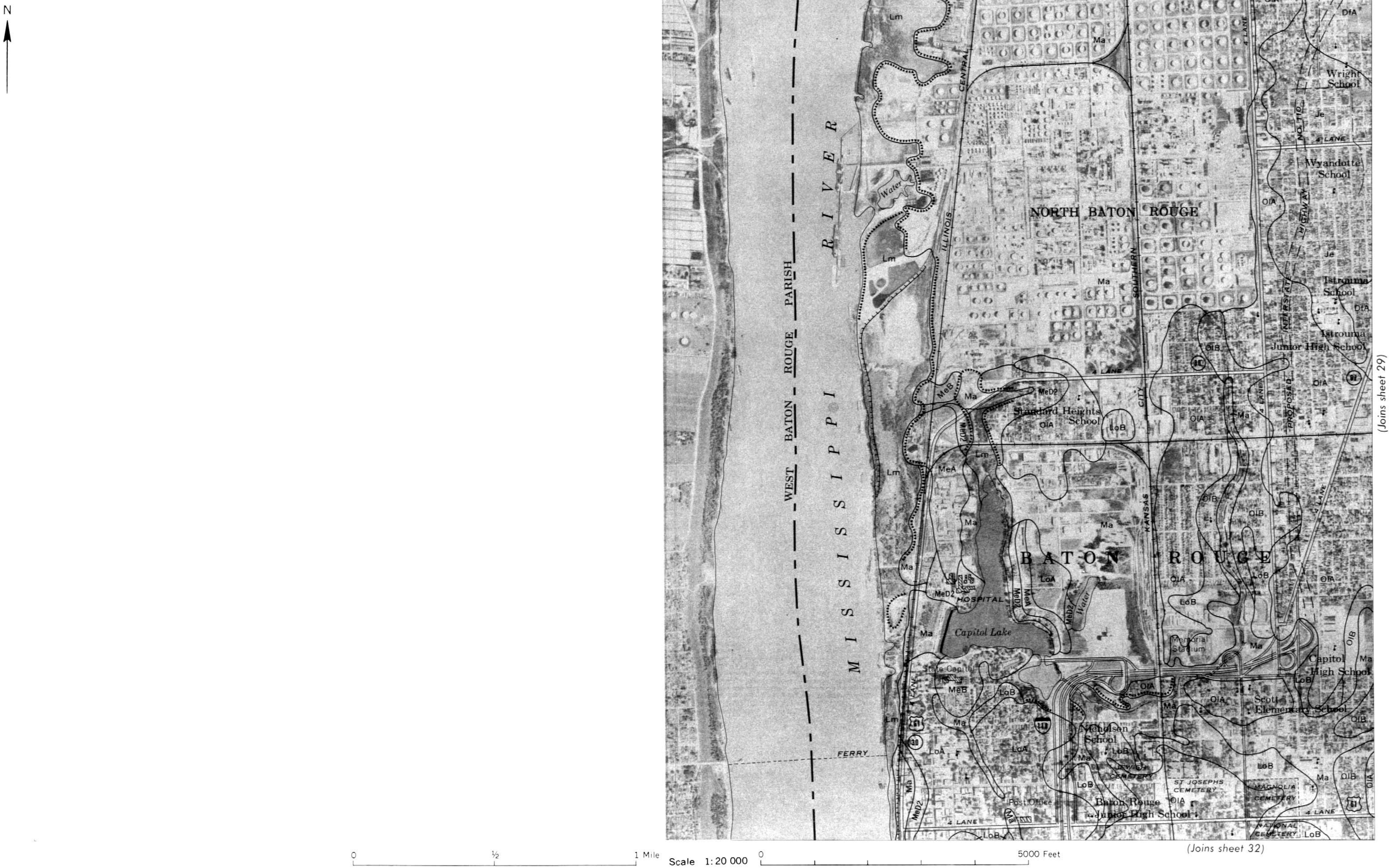
(Joins sheet 31)

0 ½ 1 Mile

Scale 1: 20 000

0 5000 Feet

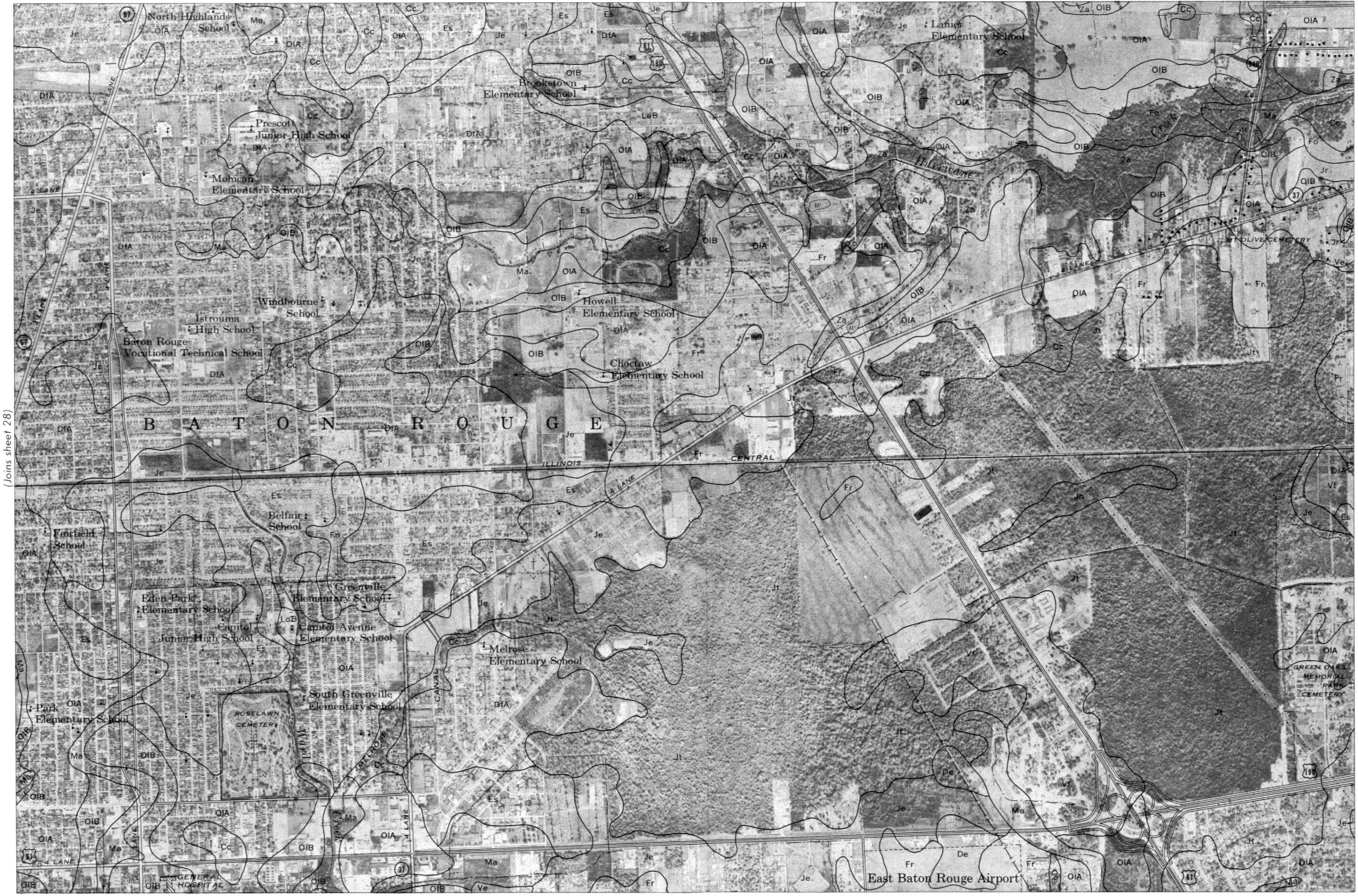
EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 28



EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 29

(Joins sheet 25)

(Joins sheet 28)



(Joins sheet 30)

(Joins sheet 33)

0 ½ 1 Mile Scale 1: 20 000 0 5000 Feet

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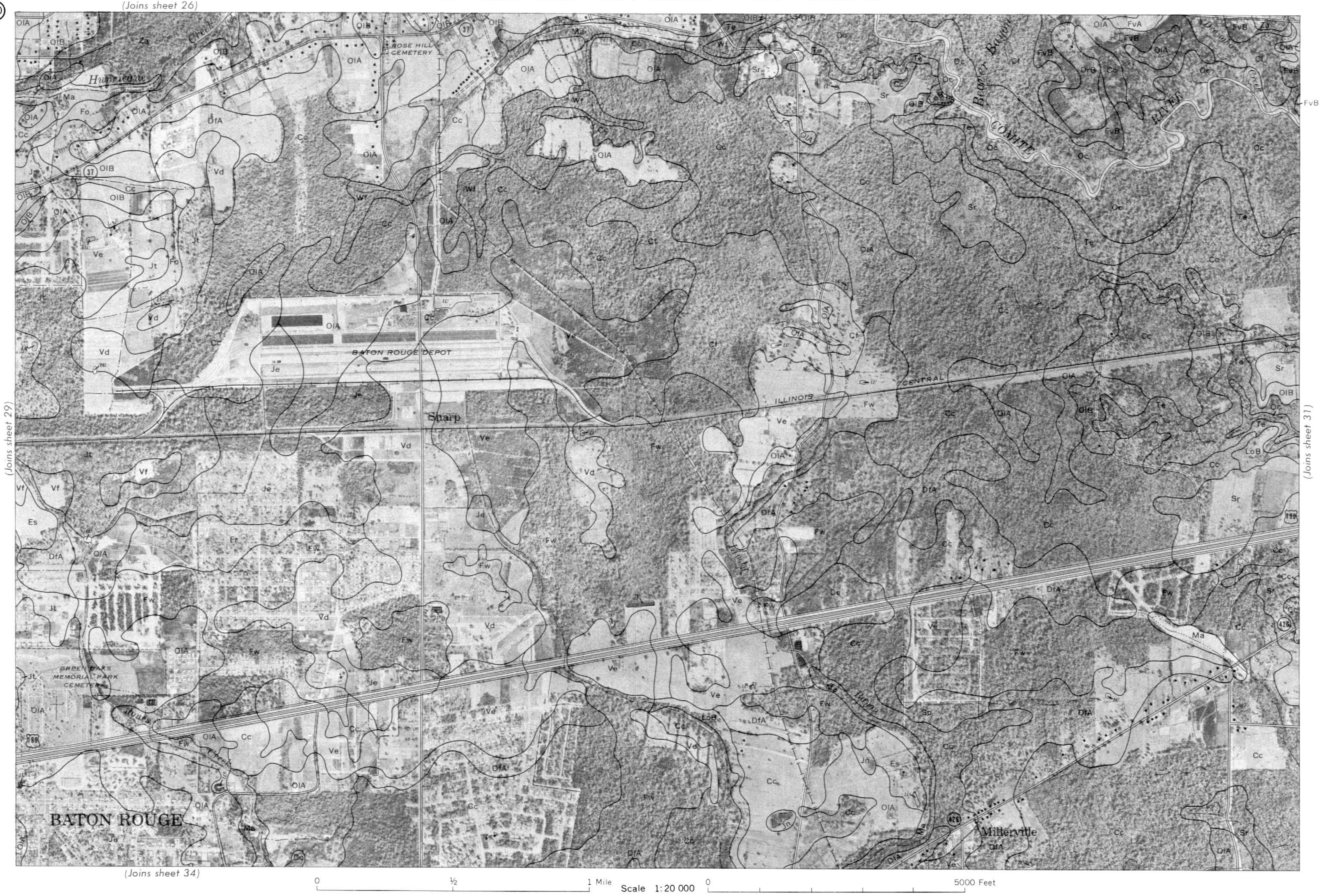
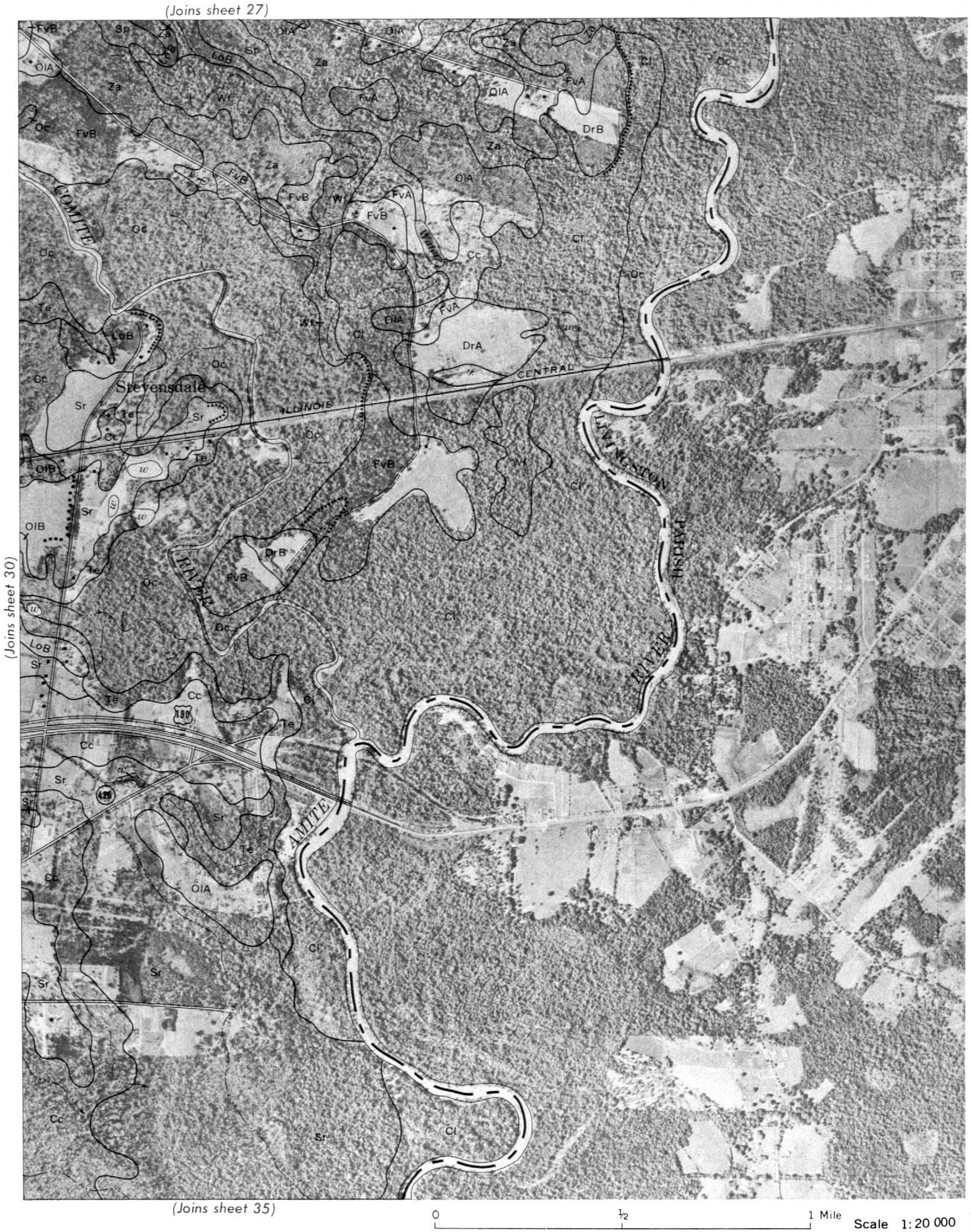
EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 30



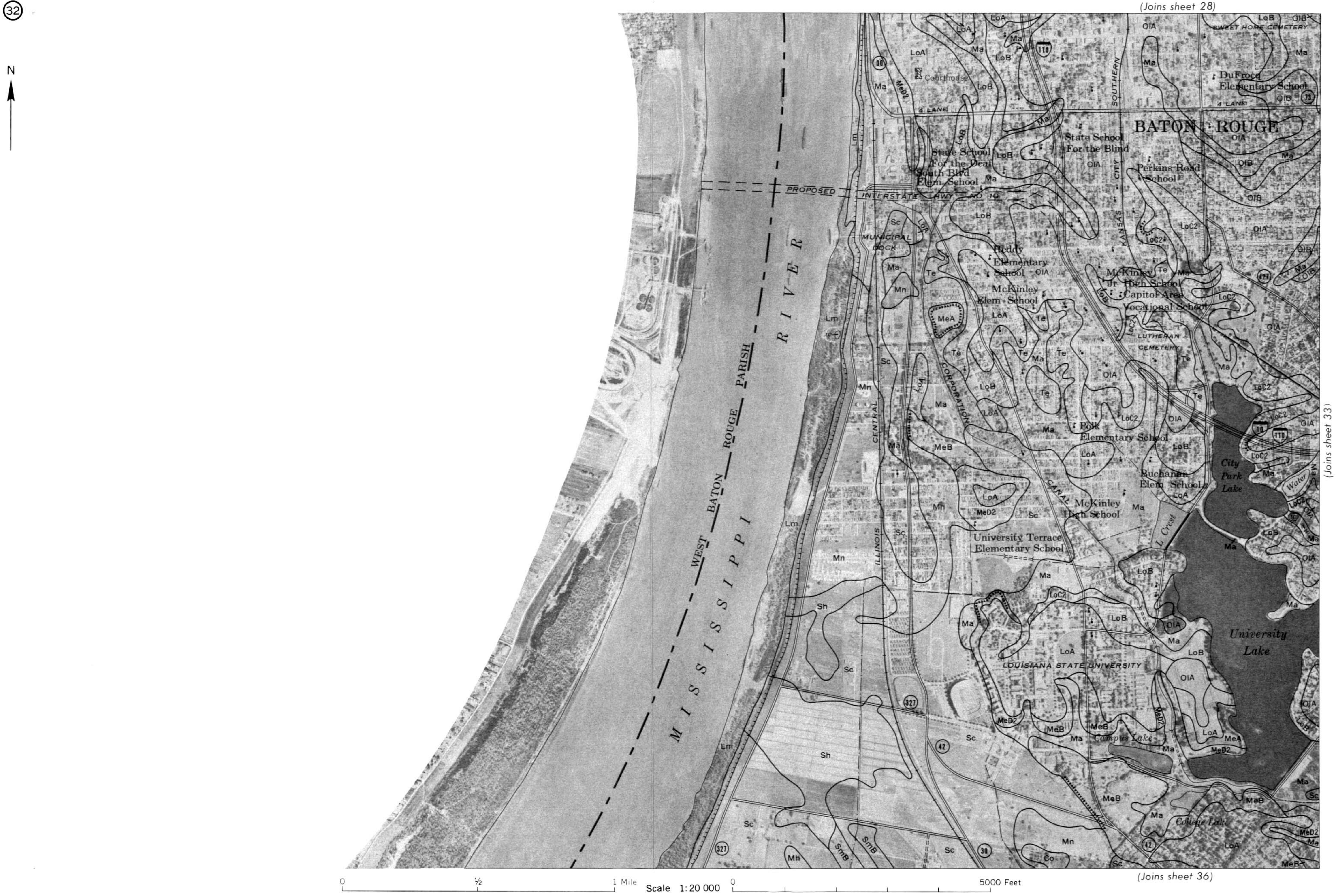


0 ½ 1 Mile

Scale 1:20 000

0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 32



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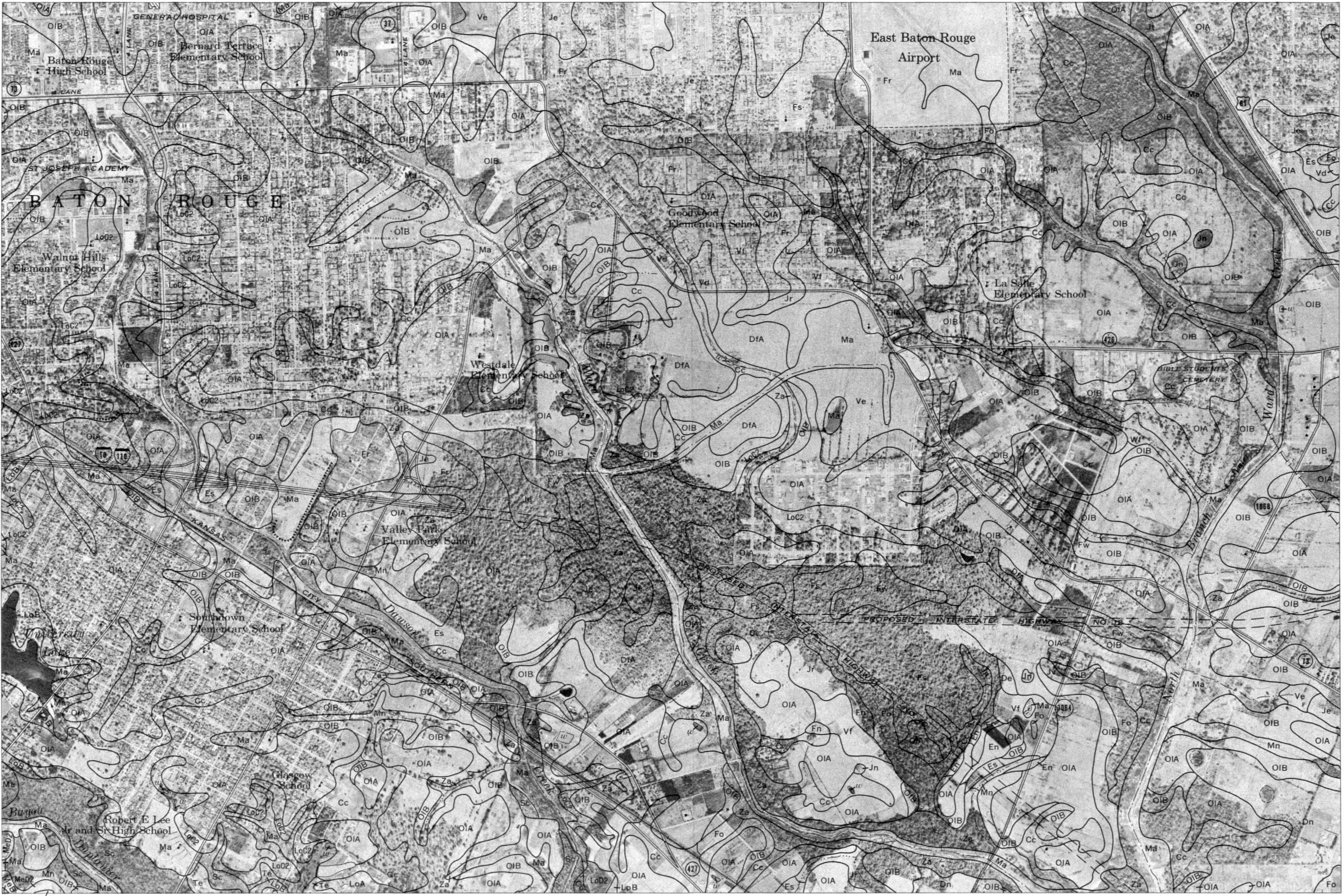

N
(Joins sheet 32)
(Joins sheet 34)
BATON ROUGE
East Baton Rouge Airport
General Hospital
Baton Rouge High School
Bernard Terrace Elementary School
St Joseph Academy
Walnut Hills Elementary School
Goodwood Elementary School
La Salle Elementary School
Westdale Elementary School
Valley Park Elementary School
Southdown Elementary School
Glasgow School
Robert E Lee Jr and Sr High School
University Lake
Bible Students Cemetery
Ward Creek
North Branch
Dawson Creek
Bayou Duplantier
Proposed Interstate Highway No. 12
Kansas City Southern
MeB

(Joins sheet 37)

Scale 1:20 000

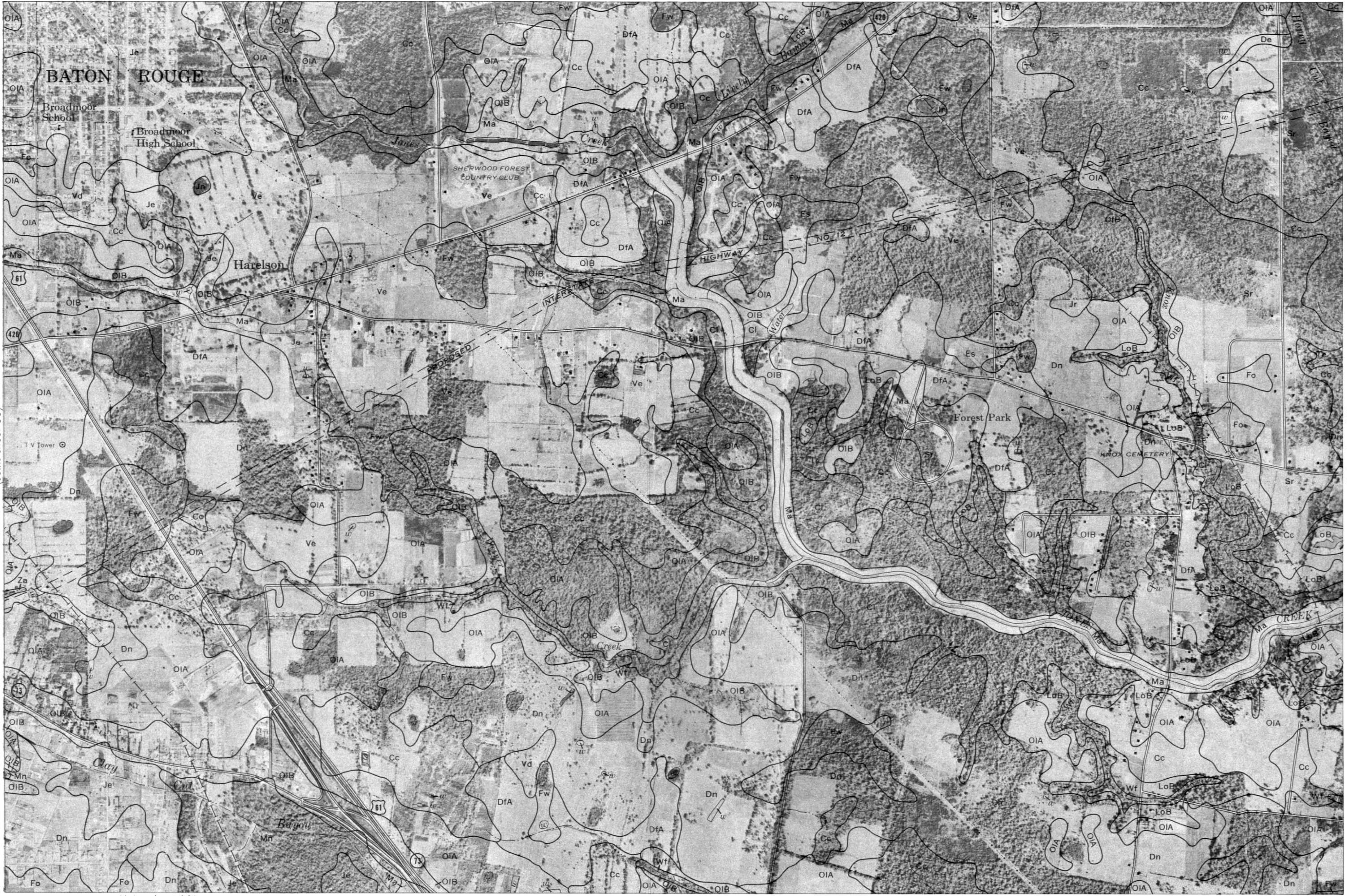
0 ½ 1 Mile

0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 34

(34)

(Joins sheet 30)



(Joins sheet 33)

(Joins sheet 35)

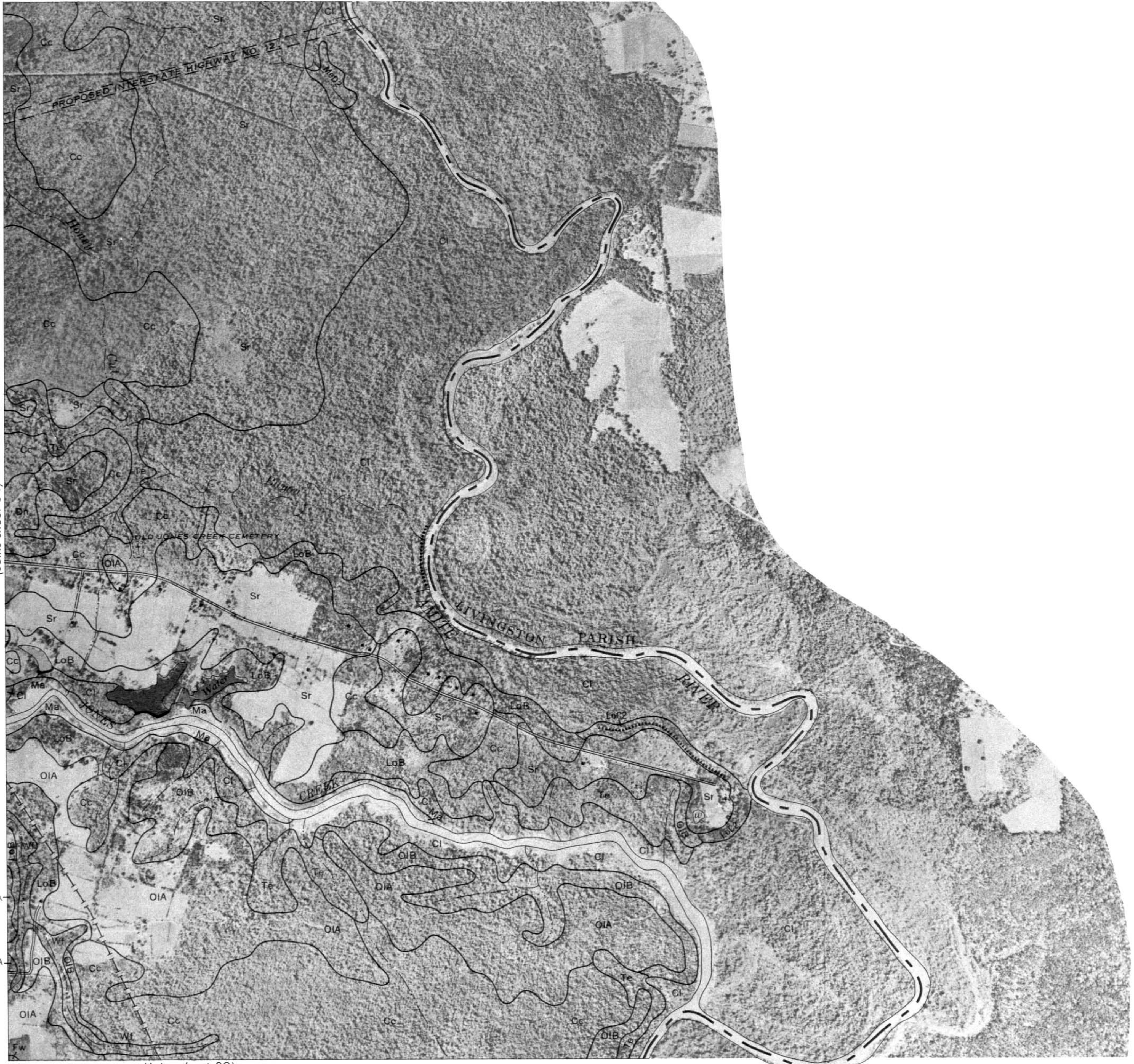
(Joins sheet 38)

0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 35

(Joins sheet 31)

(Joins sheet 34)



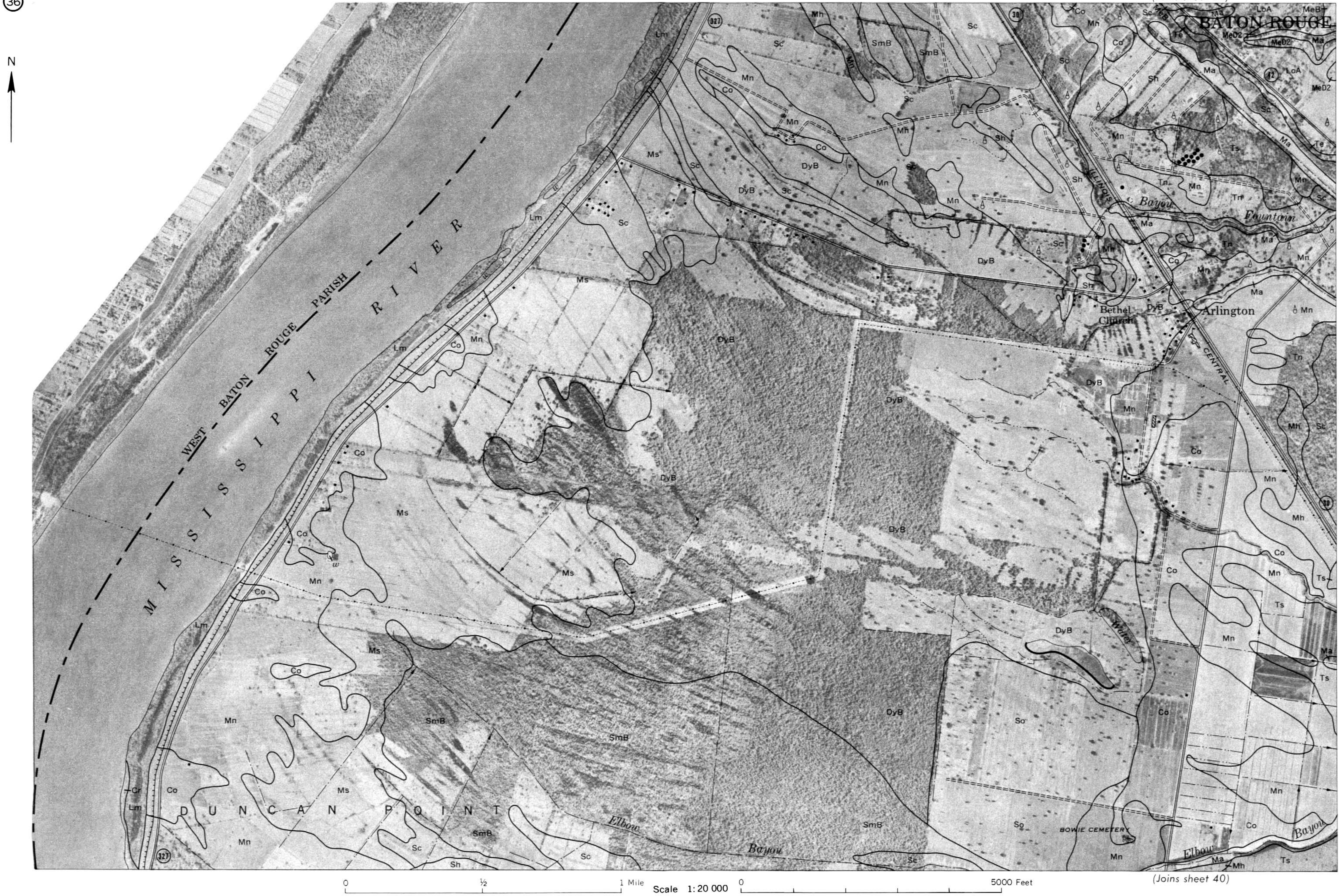
(Joins sheet 39)

0 ½ 1 Mile

Scale 1:20 000

0 5000 Feet

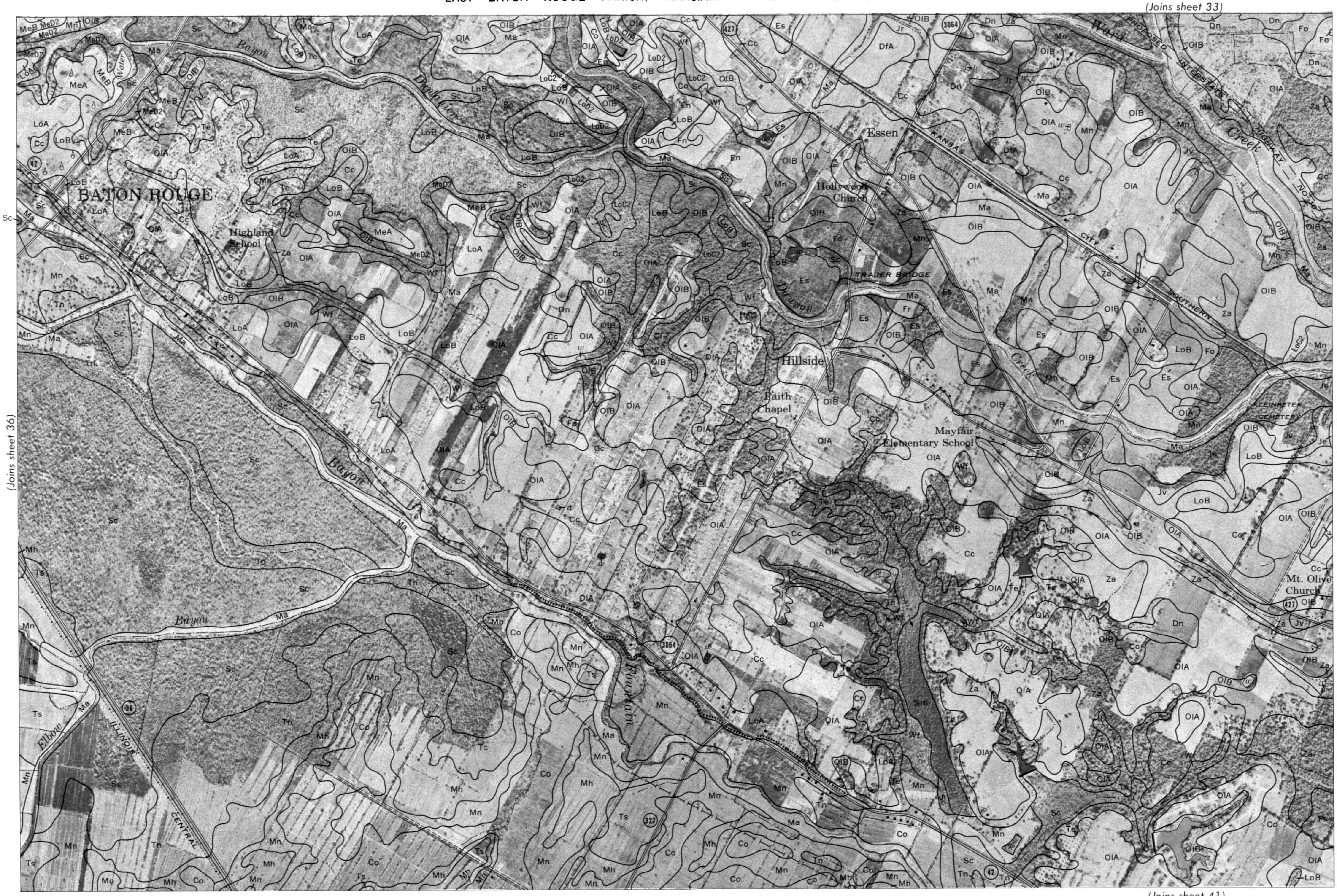
(Joins sheet 32)



(Joins sheet 37)

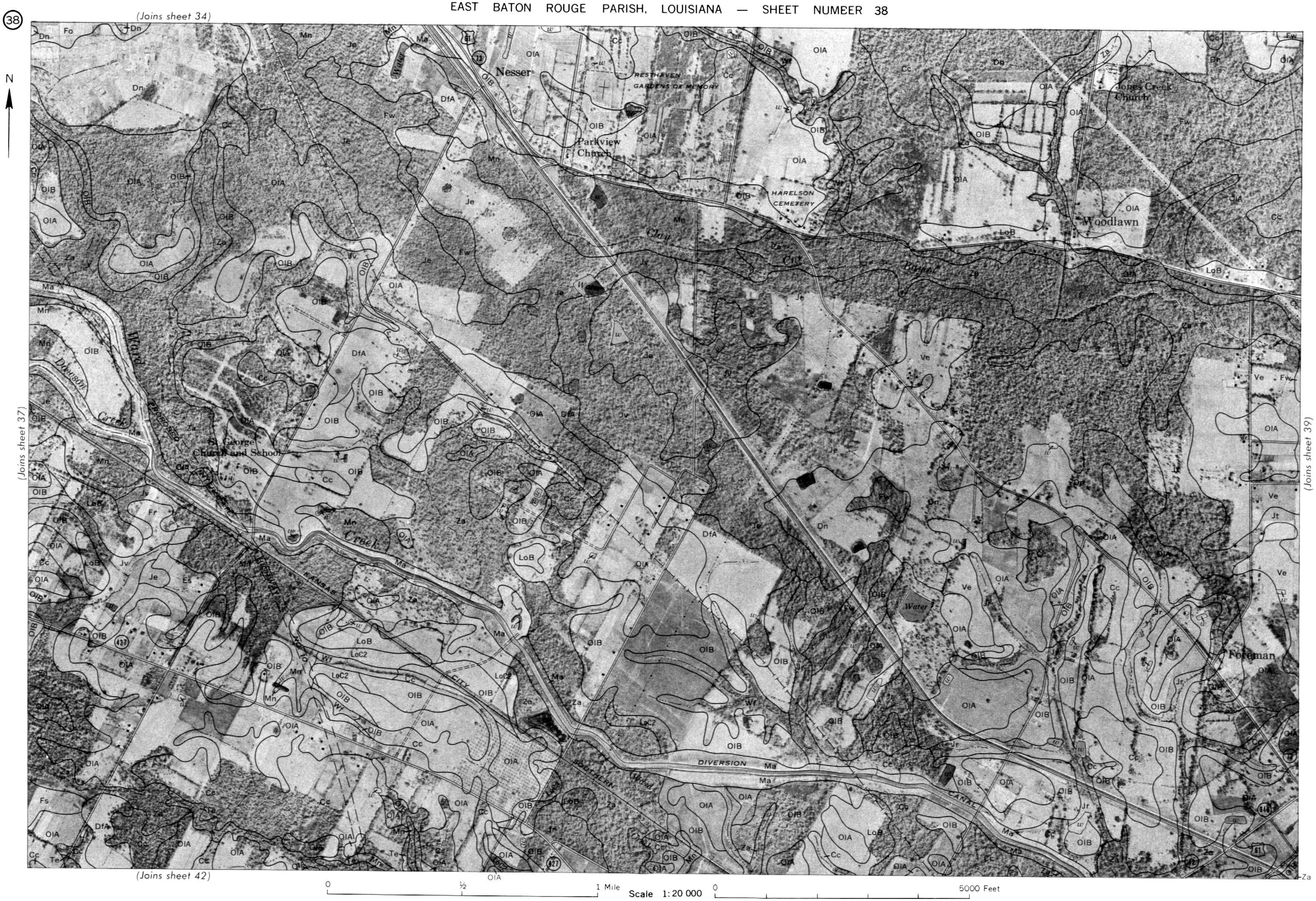
(Joins sheet 40)

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 37

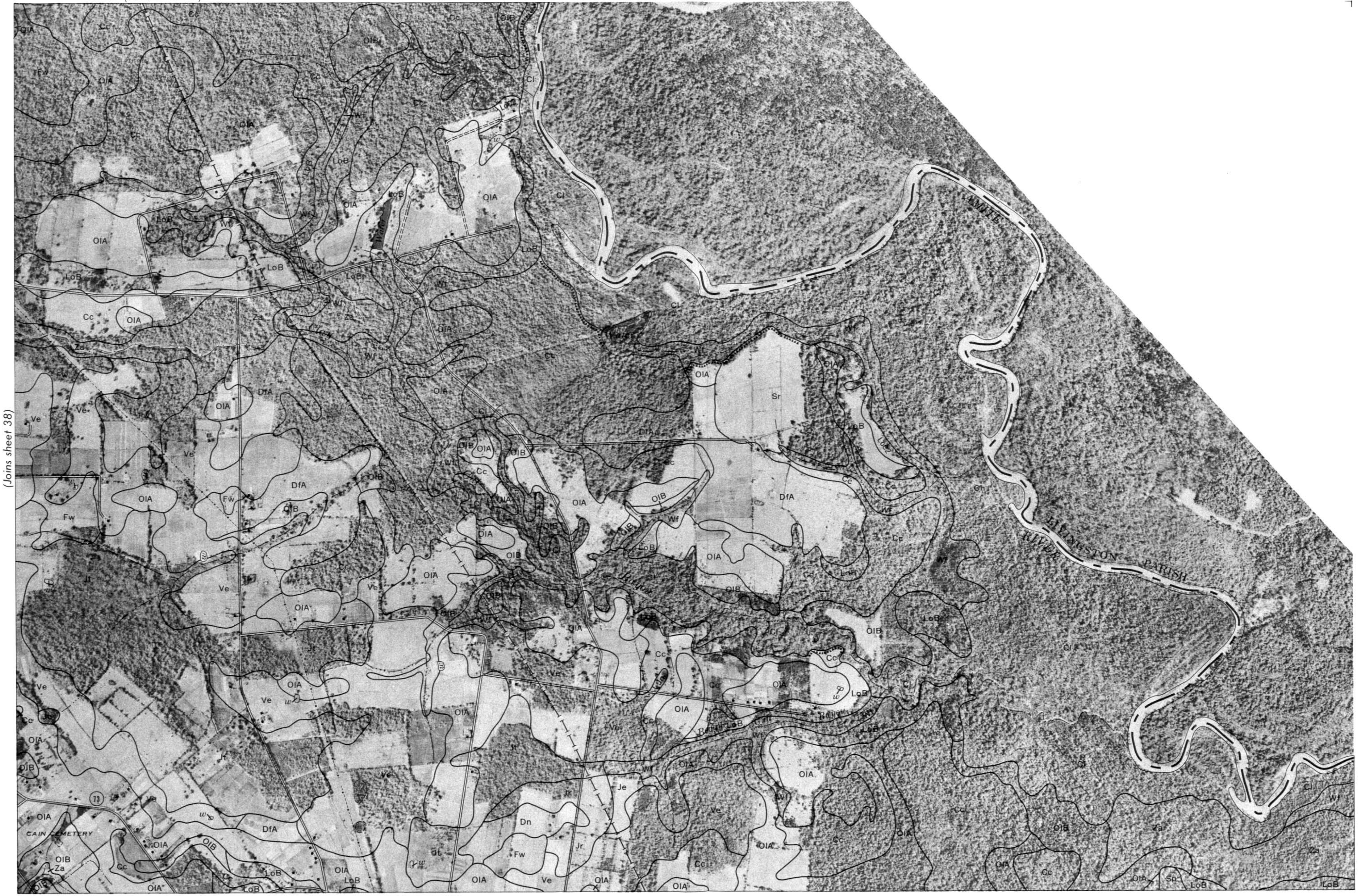


0 ½ 1 Mile Scale 1:20 000 0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 38



(Joins sheet 35)

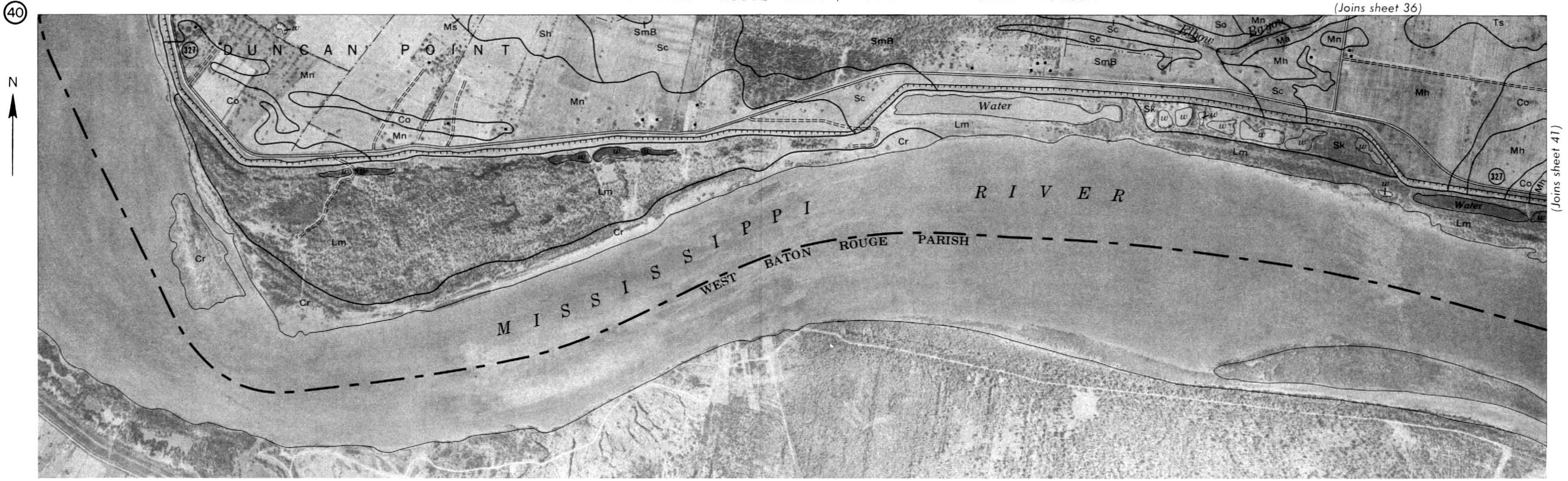


Scale 1:20 000

0 ½ 1 Mile

0 5000 Feet

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 40

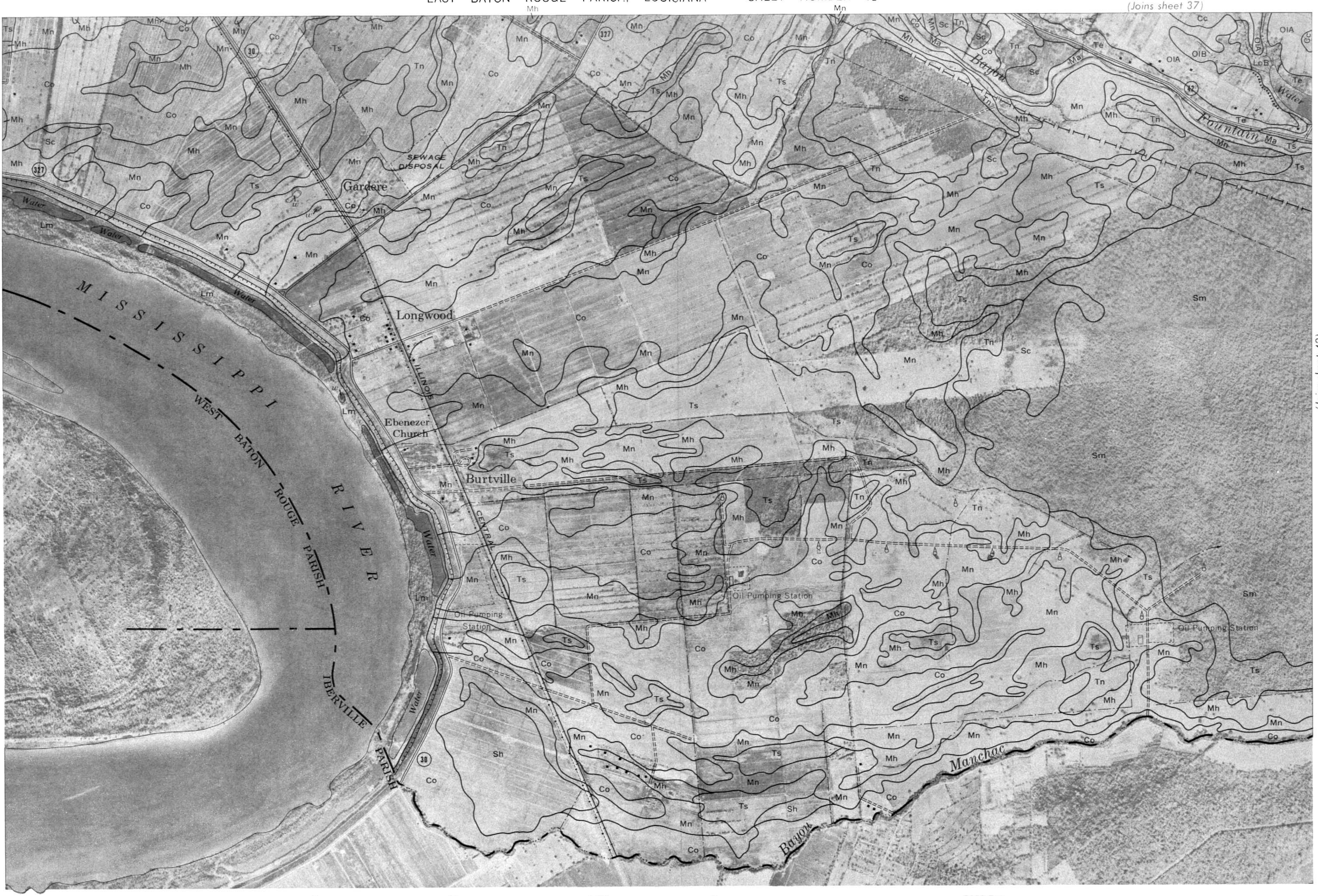


0 ½ 1 Mile Scale 1: 20 000 0 5000 Feet

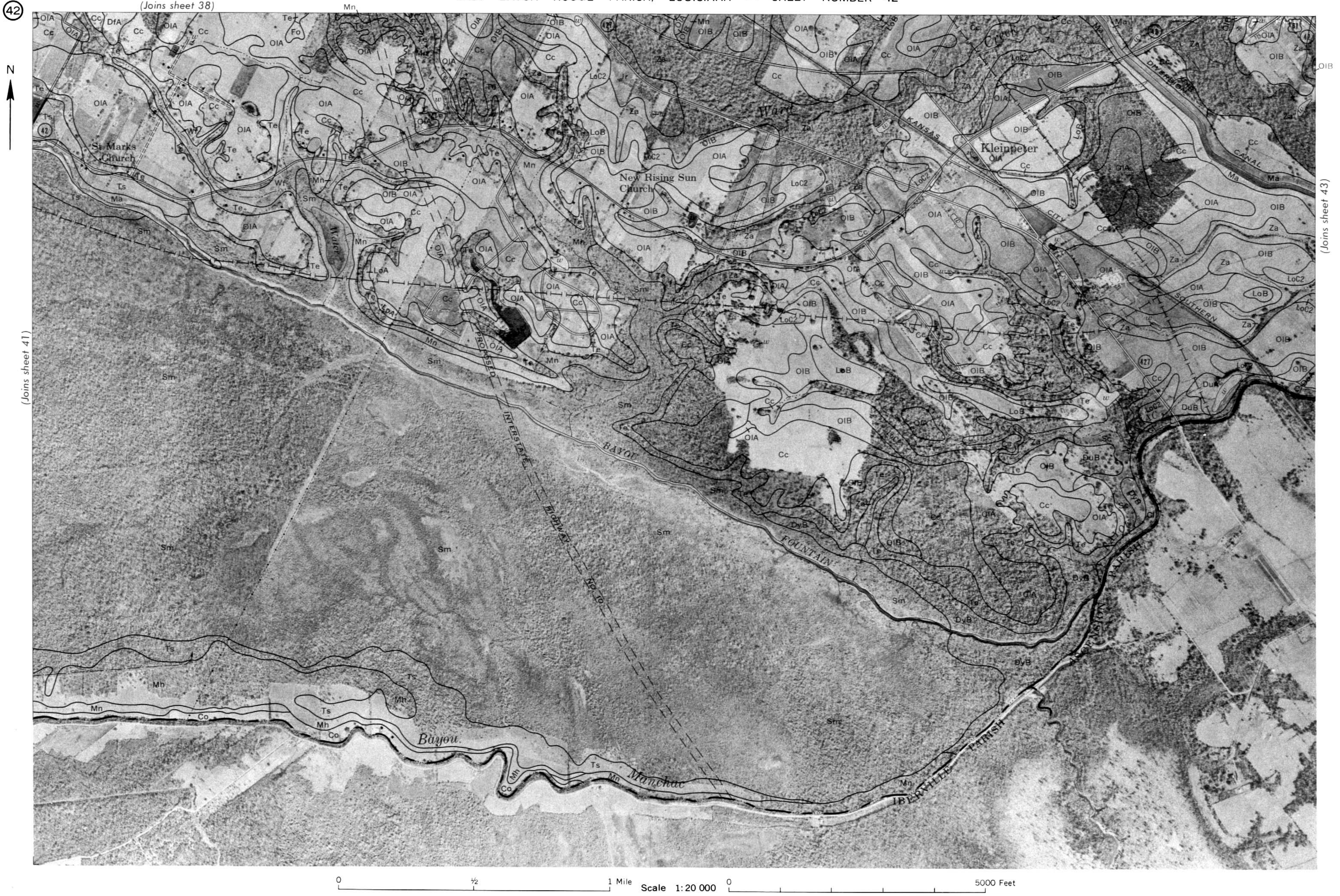
(Joins sheet 37)

(Joins sheet 40)

(Joins sheet 42)

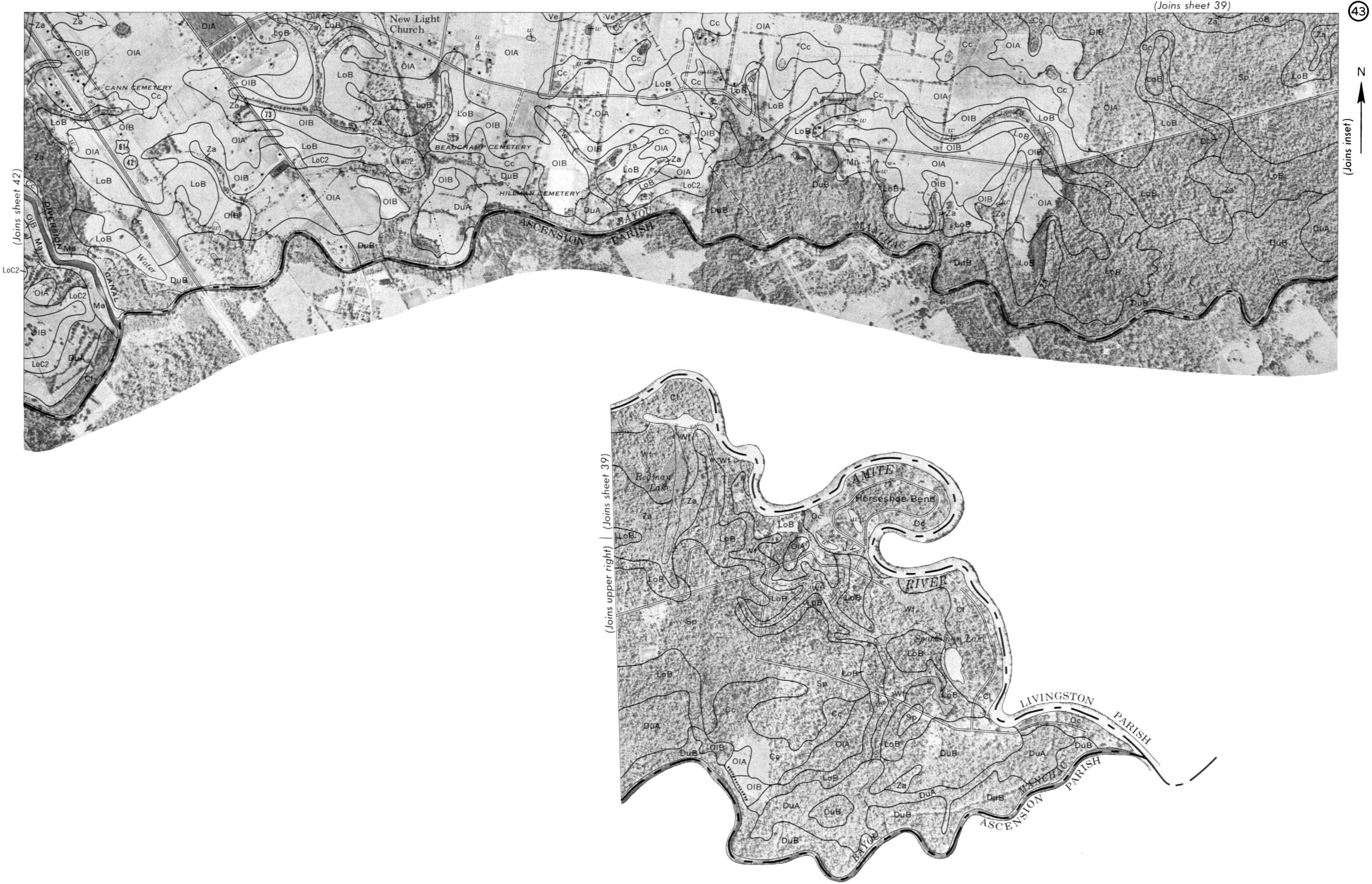


0 ½ 1 Mile **Scale 1:20 000** 0 5000 Feet



Scale 1:20 000

EAST BATON ROUGE PARISH, LOUISIANA — SHEET NUMBER 43



0 ½ 1 Mile Scale 1:20 000 0 5000 Feet